

ISSN 2277-3819

Indian Journal of Educational Research

Volume 1

March 2012

Cur- H05386-1-9145976



Department of Education
University of Calcutta

Indian Journal of Educational Research

Chief Patron

Professor Suranjan Das, Vice- Chancellor, University of Calcutta

Academic Advisor in Chief

Dr Malay Kumar Sen, Head, Department of Education, University of Calcutta

Editorial Board

Professor Debjani Sengupta (Editor)

Dr. Madhumala Sengupta(Member) Dr. Nimai Chand Maiti(Member)

Dr. Md. Kutub Uddin Halder (Member)

Advisory Board

Professor Dhrubajyoti Chattopadhyay, Pro-Vice- Chancellor (Academic), University of Calcutta

Professor Mamata Ray, Pro-Vice- Chancellor (B.A. & Finance), University of Calcutta

Professor Marmar Mukhopadhyay, Formerly Director, NUEPA, New Delhi

Dr. Madhumita Bandhopadhyay, Assistant Professor, NUEPA, New Delhi

Swami Tattasarananda, Principal, Ramakrishna Mission Sikshanmandira, Belur, West Bengal

Professor Sanat Kumar Ghosh, , Dean of Arts, Rabindra Bharati University

Dr. Subrata Saha, Professor, Department of Education, Rabindra Bharati University

Dr. Subhalakshmi Nandi, Professor, Department of Education, University of Kalyani .

Dr.Rita Sinha, Professor, Department of Education, University of Calcutta

Dr. Aditi Ghose, Professor, Department of Education, University of Calcutta

Dr. Mita Banerjee, Professor, Department of Education, University of Calcutta

Dr. Debasri Banerjee Associate Professor, Department of Education, University of Calcutta

Dr. Santosi Halder, Assistant Professor, Department of Education, University of Calcutta

Dr.Jayanti Das, Reader, Department of Education, University of Calcutta

Dr.Sudeshna Lahiri, Assistant Professor, Department of Education, University of Calcutta

Dr. Sridipa Sinha , Assistant Professor, Department of Education, University of Calcutta

Published 2012

© University of Calcutta

All right reserved. No part of this publication can be reproduced or transmitted, in any form or any means, without prior permission of the Editor.

Published by Department of Education, University of Calcutta, 1, Reformatory Street, Kolkata 700027 and **Printed by Sri Pradip Kumar Ghosh**, Superintendent, Calcutta University Press. 48, Hazra Road, Kolkata-700019

ISSN 2277-3819

Price: 100



ISSN 2277-3819

Indian Journal of Educational Research

Volume I

March 2012



Editorial Board

Professor Debjani Sengupta (Editor)

Dr. Madhumala Sengupta (Member), Dr Nimai Chand Maiti (Member)

Dr. Md. Kutub Uddin Halder (Member)



Department of Education
University of Calcutta, Alipore Campus
1, Reformatory Street, Kolkata – 700 027

Indian Journal of Educational Research

Volume I

November 2011

Contents

Pages

Editor's Note

**A Study on the Effect of Constructivism on Secondary School
Students of Kolkata**
Sridipa Sinha

1-7

**Computer Self Efficacy and Computer Anxiety of the In-service Teachers
in West Bengal**
Santoshi Halder and Sudip Chaudhuri

8-21

Conceptual Understanding Of Educational Research For Increasing Output
Sujeet Kumar, Deepali Tyagi and Jaya Jain

22-28

**Construction of a questionnaire to assess young adults' conflict with their
parents**
Suchandra Banerjee and Aditi Ghose

29-40

**Development of Distance Education and Open Learning at the University
Level In India**
Nimai Chand Maiti and Anwesha Acharya

41-57

Educating The Girl Child : A Review
Mita Banerjee and Hema Datta

58-64

**Environment Related Behaviour of Students with Visual Impairment: An
Exploratory Factor Analysis**
Madhumala Sengupta, Debasri Banerjee and Pintu Kumar Maji

65-81

Inclusion: Peer-Group Support and Visually Challenged Students
S. B. Bhattacharya, Upasana Ray and Surjoday Bhattacharya

82-90

Inclusive Growth for Sustainable Development: Role of Higher Education
Dulal Mukhopadhyaya

91-105

In search of Quality: Role of Teacher Educators
Ganesh Anant Hegde

106-120

| | Pages |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Integrative Review of Literature from Meta-Analysis Perspective Pranab Kumar Chakrabarti | 121-126 |
| Socio-Economic Background of Muslim Students at the Post-Graduate Level of Education : A Case Study of Calcutta University Md. Kutubuddin Halder | 127-150 |
| The “Language” of Language D.P.Mukherjee | 151-159 |
| Threats to University Governance in Mozambique Ivan Collinson | 160-164 |
| Trends in Professional Ethics Deepa Rani Saxena | 165-174 |
| Women’s Access to Higher Education: A Case Study of Vidyasagar University Post-Graduates Asis Kumar Dandapat and Debjani Sengupta | 175-191 |
| <i>Research Abstracts</i> | |
| Computer Programming, Creativity and Intelligence Rita Sinharay | 192-193 |
| Field Based Participatory Activity in Environmental Education Mrinal Mukhopadhyay | 194-195 |
| Primary Education in the Homes Debjani Ghosh | 196-197 |
| Rehabilitation of Street Children Shabana Haydar | 198-199 |
| Rehabilitation of Visually Impaired Persons Runa Mukhopadhyay | 200-201 |

Indian Journal of Educational Research

Editors' Note

It is with great pleasure we announce the publication of a new journal entitled "INDIAN JOURNAL OF EDUCATIONAL RESEARCH".

Our department regularly publishes an annual journal namely "OUR EDUCATION" since 1980s. However, a new endeavor was undertaken by the faculty members to publish annually a professional journal with emphasis on empirical research findings on Education. The outcome of this is the present issue.

The journal will cover issues that are pertinent to peoples' lives and living to understand the nuances of education in its totality. It encourages multidisciplinary approaches; critical and original thinking in research and theory building; and, finally, formation of a forum with all the stakeholders in education in this subcontinent and across the globe. We hope the journal will pave towards the enrichment of theory and practices of education. Friends and colleagues are welcome with original research articles, book reviews and research notes on contemporary issues on education. Comments of the papers published in the journal are also welcome.

In the present issue we have received several articles related to good quality research covering different aspects of education and its related fields. The topics include diverse issues like problems related to minority education, women education, education of the children with special needs and environment related behaviour. The articles on teacher education, administration, professional ethics, quality of education have also been included which has shaped the holistic approach of the journal. More over as a truly research journal it has delved in to matters related to meta analysis, construction of standardized questionnaire, constructivism and other issues. All the papers in the journal are expected to enhance the quality research in education. Research abstracts awarded for Ph. D. degree in the last convocation are also included to encourage the Young researchers.

We gratefully thank Prof. Suranjan Dás, our Vice-Chancellor, Prof. Drubajyoti Chattopadhyay and Prof. Mamata Roy, our Pro Vice-Chancellors and Prof. Basab Chaudhuri, our Registrar, for providing kind permission, necessary support and inspiration. Our heartfelt thanks and warm regards to all the authors who contributed significantly in shaping our dreams.

Debjeni Sengupta
Professor, Department of Education, University of Calcutta

A Study on the Effect of Constructivism on Secondary School Students of Kolkata

Sridipa Sinha¹

Abstract: *The constructivist approach of education emphasizes on the construction of life resulting in the development of a lifelong and productive education. The study tries to show the importance of Constructivist learning strategy in teaching Environmental Education. The data has been collected from four schools in Kolkata. A total of hundred students of Class IX were taken who had been equally divided into Experimental and Control groups. The main independent variable for the present study was method of teaching followed by the teachers. The dependent variable in the study was the behaviour of the teachers and the behaviour of the students. The results of this study did support the value of constructivist or student-centered learning. It was anticipated that the constructivist class would have a higher average on the weekly quiz grades, and this was supported by statistical analysis.*

Key Words: Constructivist Approach, Constructivist Teaching Strategies.

Introduction

Constructivist Pedagogy or Constructivist Approach or Constructivist Application as it is differently named is a combination of pedagogical theory and practice. The concept of education has changed considerably over the years resulting in the transformation of basic fundamental ideas which has been classified into two broad divisions

- the traditional or the narrow or the theoretical concept of education
- broader concept of education.

The broader aspect of education is an outcome of the fast changing concept of education with the emergence of new world which totally emphasizes on the practical implementation of the philosophy of utilitarianism. The constructivist approach of education emphasizes on the construction of life resulting in the development of a lifelong and productive education.

Life has become highly complicated and challenging, demanding a challenging education.

Keeping this in view education has undergone a fundamental change

- from abstract to concrete and
- from theory to practical

Therefore there is a demand for an education which will help in satisfying the needs of life.

If education is not result oriented there will be no bridge to fill the gap between theory and practice, education would be divorced from life. Delors Commission Report on Education of the 21st Century speaks about the four Pillars of Education.

Learning to Know – i.e. How to know? or How to learn?

Learning to be – i.e. Building up of a process of life.

Learning to do – i.e. doing /productive education which will lead to an effective life.

¹ Assistant Professor, Department of Education, University of Calcutta

Learning to live together – i.e. to form collective world or collective society because man is becoming isolated. To bring forth a co-operative collective living, composite integrated living an inclusive constructivist education is required.

Constructivist or student-centered learning poses a question to the students, who then work together in small groups to discover one or more solutions (Yager, 1991). Students play an active role in carrying out projects. Teachers assist the students in developing new insights and connecting them with previous knowledge, but leave the discovery and discussion to the student groups (VAST, 1998).

Constructivist Teaching Strategies involve the following:

- Using teaching strategies that require students to make a construct. (Presenting information is not enough.) Students must apply, use, or process the information.
- Ensure that all students are participating in making constructs; holding them accountable for their learning.
- Ensure the tasks require students to process the information at a high level on Bloom's taxonomy: Evaluation, synthesis, analysis etc.
- Require the students to make a product that is used to diagnose learning errors and omissions. e.g. speaking to a partner, matching cards, written work etc.
- Require students to check for their own, and each other's learning errors and omissions.
- Require students to correct these learning errors and omissions.

The teacher occupies a very important position in any programme of educational reconstruction. Unless the teacher plays an effective role in the classroom, the knowledge of theory and other things is of no use. He or she has to organize and skillfully manipulate conditions for learning so that the children under his or her care can make the maximum use of their potentialities. The teaching-learning process is considered to be the most delicate, complex, challenging and significant social process. The major problem in the area of school education is to influence the classroom instructional process. If the instructional process is improved, the benefits of new curriculum, new text books and innovations may be fruitful. The teacher has a great deal of influence on pupils.

Most students find the subject of environmental education boring, difficult and generally unnecessary. It is important that students need to have an understanding and appreciation of the role that environmental education plays in their lives.

Often, Environmental Education is taught in a traditional teacher-centered style. The traditional classroom can sometimes resemble a one-person show with a captive but

largely uninvolved audience. Classes are usually dominated by lecture or direct instruction. The idea is that there is a fixed body of knowledge that the student must come to know. Students are expected to blindly accept the information they are given without questioning the instructor (Stofflett, 1998). The teacher seeks to transfer thoughts and meanings to the passive student leaving little room for student-initiated questions, independent thought or interaction between students (VAST, 1998). This teacher-centered method of teaching also assumes that all students have the same level of background knowledge in the subject matter and are able to absorb the material at the same pace (Lord, 1999).

In contrast, in a constructivist class questions are posed to the class and student teams work together to discuss and reach agreement on their answers, which are then shared with the entire class. Students are able to develop their own understanding of the subject matter based on previous knowledge, and can correct any misconceptions they have.

Many teachers are hesitant to try the constructivist model, because it requires additional planning and a relaxation of the traditional rules of the classroom (Scheurman, 1998). Teachers often feel as though they aren't doing their job if the students are working together and actively discussing the material instead of taking notes (Sprague and Dede, 1999). Numerous studies have been completed to compare students' learning in traditional and constructivist classrooms. These studies generally based their conclusions on test or quiz scores and student comments or evaluations (Lord, 1997; Lord, 1999).

Hypothesis:

H_{01} : There is no significant difference in the Unit Test result of the Control Group and the Experimental Group.

H_{02} : There is no significant difference in the attendance of the Control Group and the Experimental Group.

Methodology

Experimental Research was most suitable for the present study. In the present investigation the sample was divided into two groups. Four schools were chosen randomly to carry out the experiment. Students of Class IX were then selected randomly who were divided equally into two groups one experimental and the other control group. They were taught for four weeks by the same teacher. Both classes did the same chapters.

The **control group** was taught in the traditional style, with information presented in a lecture format and concepts explained by the teacher. The **experimental group** was taught as a

constructivist class. This group was asked to make observations and discuss relationships and concepts with team members.

Variables-

The main independent variable for the present study was method of teaching followed by the teachers. The dependent variable in the study was the behaviour of the teachers and the behaviour of the students.

Sample

Four schools were selected for the study. Kolkata was the target population. Out of these schools 100 students of Class IX were taken for the study. The two groups (Experimental and Controlled) were divided.

Table 1.1: Division of Sample as Experimental and Control Groups

| Sl. No | Institutions | No. of Students involved | | |
|--------|--------------|--------------------------|---------|-------|
| | | Experimental | Control | Total |
| 1. | School A | 10 | 11 | 21 |
| 2. | School B | 13 | 14 | 27 |
| 3. | School C | 14 | 13 | 27 |
| 4 | School D | 13 | 12 | 25 |
| | Total | 50 | 50 | 100 |

Tools

The tools utilised for collecting data were:

1. Unit Test was constructed by the researcher every week.
2. Quiz conducted by the researcher.

Findings and Interpretation

The statistical techniques employed for analyzing the data were Mean, SD and t- Test.

Testing for H_{01}

Table 2.1: Mean., SD, and 't' value of experimental and control group

| Sl No | Categories | N | M | S.D. | t | df |
|-------|--------------------|----|-------|-------|-------|----|
| 1. | Experimental Group | 50 | 69.38 | 12.3 | 2.27* | 98 |
| 2. | Control Group | 50 | 63.43 | 13.83 | | |

There existed a significant difference in the results of the students between the experimental and control groups at .05 level of significance. The null hypotheses was rejected. This showed

that there was a positive effect of constructivist teaching strategy on the experimental group. There was development in the competency of the experimental group.

Weekly unit test scores were compared using a t-test for comparison of means. Average test scores from all students in each class were compared for each week of class. The results of this test showed a significant difference between the constructivist class and the traditional class, with the constructivist group displaying higher scores (Figure 1.1). The unit scores for the constructivist group were higher than those for the traditional group every time. (fig1.1)

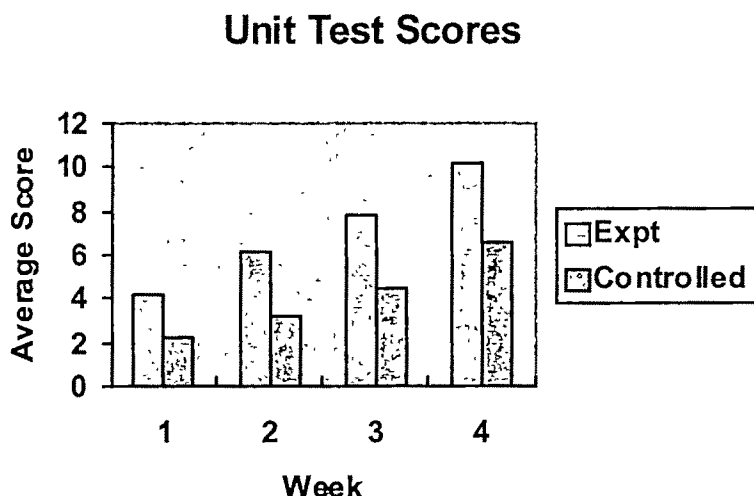


Figure: 1.1: Average Unit Test Scores Obtained by the Students of Both Groups

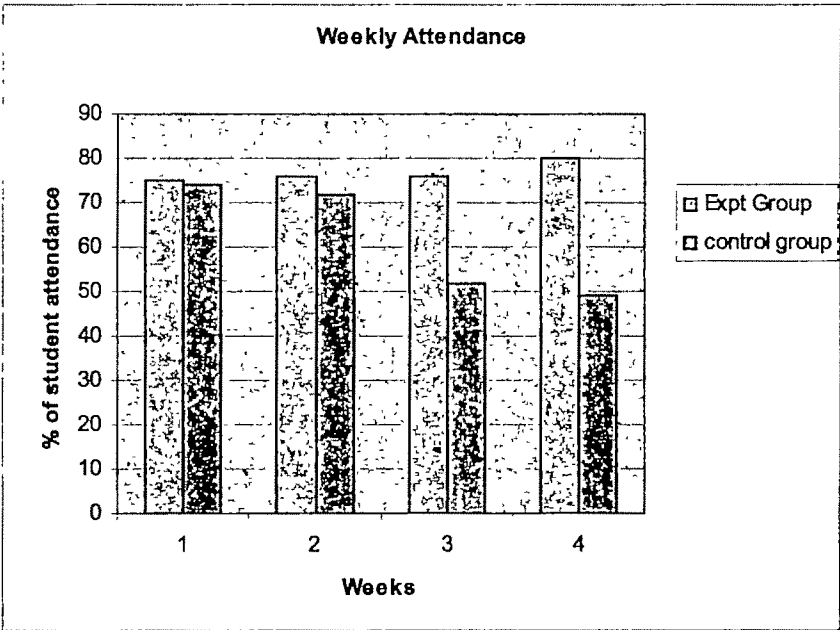
Several statistically significant differences were found between the two classes. The weekly test scores between the constructivist group and the traditional group showed a clear trend. As a class, the constructivist group scored significantly higher than the traditional class every week, even though both groups covered the same material, did the same activities and took the same quiz. The students in the constructivist class spent time working through challenges and discussing various alternatives in small groups, rather than simply listening to the material presented by the teacher and taking notes. For example, definitions of terms were not simply given; instead, the students had to create their own definitions as a team and then explain these to the class. Because the students in the experimental group were more actively involved in their learning experience, they retained more information and were able to recall and apply this information better than the control group.

Testing for H₀₂

Table 2.2: Mean., SD, and 't' value of experimental and control group

| Sl.No | Categories | N | M | S.D. | t | df |
|-------|--------------------|----|-------|------|-------|----|
| 1. | Experimental Group | 50 | 83.53 | 3.10 | 11.70 | 98 |
| 2. | Control Group | 50 | 77.45 | 4.02 | | |

There existed a significant difference in the attendance of experimental and control groups at 0.01 level of significance. Thus the Null Hypothesis is rejected.



Weekly attendance for both the groups was analyzed to determine whether the teaching style used in the class had an effect on the students' interest and therefore their participation in the class (Figure 2). Data was analyzed using percentage, which demonstrated that there was a significant difference between the attendances of the two groups. Attendance among the students in the traditional group showed a sharp decline towards the end of the 4th week.

Conclusions:

The results of this study did support the value of constructivist or student-centered learning. It was anticipated that the constructivist class would have a higher average on the weekly quiz grades, and this was supported by statistical analysis. The traditional class exhibited less student participation and interaction than the constructivist class, while losing none of the hands-on activities or instructor support. They did have more lecture time, but this is a

defining factor for a traditional classroom. Student comments from members of the constructivist group indicated a high level of satisfaction, and increased student participation was evident to any observer. Students were more willing to volunteer answers and ask questions of the instructor in order to clarify material, and team discussions resulted in many new points being introduced. The data collected for this study certainly supported the benefits generally attributed to constructivist teaching.

References

- ADAMS, P. E. and GERALD H. K. 1999. Stimulating Constructivist Teaching Styles Through the Use of an Observation Rubric *Journal of Research in Science Teaching*. Vol. 36, No. 8:955-971.
- BUCH, M.B. (Ed) 1968 *Studies in Teaching and Teacher Behaviour*, Baroda : CASE, M.S. University
- FLANDERS, N. A. 1970. *Analyzing Teaching Behavior*, Philippines: Addison-Wesley Publishing Co, Inc.
- LORD, T. R. 1994. Using Constructivism to Enhance Student Learning in College Biology, *Journal of College Science Teaching* Vol. 23, No. 6:346-348.
- LORD, T. R. 1997. A Comparison Between Traditional and Constructivist Teaching in College Biology, *Innovative Higher Education*. Vol. 21, No. 3:197-216.
- LORD, T. R. 1998. Cooperative Learning That Really Works in Biology Teaching, *The American Biology Teacher*, Vol. 60, No. 8:580-588.
- LORD, T. R. 1999. A Comparison Between Traditional and Constructivist Teaching in Environmental Science, *Journal of Environmental Education*. Vol. 30, No. 3:22-28
- OPALKA, J. 1998. The Effects of Constructivist Teaching Methods on High School Science Students [MSc Thesis]. Academic Library, Indiana University of Pennsylvania, Indiana, PA.
- SCHEURMAN, G. 1998. From Behaviorist to Constructivist Teaching, *Science Education*. Vol. 62, No. 1:6-9.
- SHYMANSKY, J.A. 1992. Using Constructivist Ideas to Teach Science Teachers About Constructivist Ideas, or Teachers Are Students, Too! *Journal of Science Teacher Education*. Vol. 3, No. 2:53-57.
- SPRAGUE, D and RISTOPHER D. 1999. Constructivism in the Classroom: If I Teach This Way, Am I Doing My Job? *Learning and Leading with Technology*. Vol. 27, No. 1:6-21.
- STOFFLETT, R.T. 1998. Putting Constructivist Teaching into Practice in Undergraduate Introductory Science. *Electronic Journal of Science Education*, Vol. 3, No. 2. Retrieved December 31, 2001 from <http://unr.edu/homepage/jcannon/ejse/stofflett.html>.
- VIRGINIA ASSOCIATION OF SCIENCE TEACHERS 1998. What is constructivism and what does it mean for science educators ? *Current Topics in Science Education*. Retrieved January 2, 2002 from http://www.pen.k12.va.us/Anthology/Pav/Va_Assoc_Sci/construct2.html.
- YAGER, R.E 1991 *The Constructivist Learning Model*, *The Science Teacher*. Vol. 58, No. 6:53-57.
- YORE, L.D. 2001. What is Meant by Constructivist Science Teaching and Will the Science Education Community Stay the Course for Meaningful Reform? *Electronic Journal of Science Education*, Vol 5, No. 4. Retrieved January 2, 2002 from <http://unr.edu/homepage/crowther/ejse/yore.html>.
- ZOLLER, U. 2000. Teaching Tomorrow's College Science Courses-Are We Getting It Right? *Journal of College Science Teaching*, Vol. 29, No. 6:409-414.www.google.com

Computer Self Efficacy and Computer Anxiety of the In-service Teachers in West Bengal

Santoshi Halder¹ and Sudip Chaudhuri²

Abstract : Recent years have witnessed burgeoning interest in the use of computers as novel tools in the field of education, but practically speaking there is still need for resolving the hidden psychological barriers of the teachers (computer anxiety, lack of computer self- efficacy etc) who are entrusted with the responsibility to use ICT in classroom. Although some teachers are enthusiastic about using computers, others are more apprehensive. Motivated by this scenario, the present study was undertaken with the objectives to explore the nature and influence of computer Self-Efficacy and Computer Anxiety of trainee teachers with respect to gender and discipline. Tools used were: (i) General Information Schedule, (ii) Computer Self-Efficacy Scale (iii) Computer Anxiety Scales. Data were gathered from randomly selected in-service trainee teachers of different disciplines from teachers' training colleges from Eastern India. Data were subjected to t-tests, ANOVA and Pearson's correlations etc. Significant differences were noted in computer anxiety and computer self efficacy of the secondary school trainee teachers with respect to gender, academic discipline and habitat.

Keywords: ICT, Teacher Trainee, Computer Self Efficacy, Computer Anxiety.

Introduction

Globalization and technological explosion that have been ushered over the past decade have led to the emergence of new global economy "powered by technology, fueled by information and driven by knowledge." (US Department of Labor, 1999). However, the task of introducing ICTs in teaching - learning situations over the years suggests that the effective integration of ICTs into the educational system is a multifaceted process that involves not just technology and infrastructure but also other such aspects like environmental preparedness, teacher readiness and competencies. In recent years there has been a tremendous interest among the researchers for finding out ways on how these skills can be developed in the teachers. NCTE, 2005 have made it essential for the school teachers to get training in teaching practices, and expecting a technologically proficient and skilled group of teachers. In India this notable task of training is offered through various teachers' training colleges spread over India through their B.Ed course, assuming a quality return in teacher behavior. The curriculum meant for the trainee teachers in the teachers' training colleges ought to be framed with the objectives of developing those requisite characteristics. As the National policy on Education 1986 in India stated, "There is a paramount need to create a computer literate environment", to meet this end it is mandatory to include 'computer

¹ Assistant Professor, Department of Education, University of Calcutta, 1, Reformatory Street, Alipore Campus, Kolkata 700027, West Bengal, India, Email: santoshi_halder@yahoo.com

² Assistant Professor, Department of Chemistry, Gandhi Centenary B. T. College, Habra, India

training' in the B.Ed syllabus which is not yet included. Ministry of Human Resource Development, 2009 laid special stress by initiating policy formulation process on '*Building a National policy on ICT in School Education*'. Recent years have witnessed burgeoning interest in the use of computers as novel tools in the field of education. But practically speaking there is still the need for resolving the hidden psychological barriers of the teachers (computer anxiety, lack of computer self- efficacy, etc) who are entrusted with the responsibility to use ICT in classrooms. Nowadays, computers are common tools in most schools, and are being used increasingly in all subject areas. Although some teachers are enthusiastic about using computers, others are more apprehensive. Needs-based technology integration education is shown to have a rapid, positive effect on teacher attitudes, such as computer anxiety, perceived importance of computers, and computer enjoyment (Busch, 1995; Rhonda, 2002). It is generally accepted in the literature that appropriate training of teachers should include the ability to use the computer for personal use and with students in the classroom (Burkholder, 1995; Kearns, 1992; Ritchie & Wiburg, 1994; Wetzel, 1993; Woodrow, 1992).

Self-efficacy has been defined as the belief that one is capable of performing in a certain manner to attain certain goals. Computer self-efficacy is a belief of one's capability to use the computer (Compeau & Higgins, 1995). Research indicates that computer self-efficacy (CSE) may be one significant determinant inhibiting or facilitating computer use (Compeau and Higgins, 1995). Woodrow (1992) showed that a positive computer attitude is a necessary prerequisite and an integral part of computer literacy. Studies have shown that self-efficacy is related to computer anxiety and training as well as learning performance and computer literacy (Beckers and Schmidt, 2001; Chou, 2001). People with high self-efficacy in a task are more likely to make more of an effort than those with low efficacy. The stronger the self-efficacy, the more active is the effort (Schunk, 1990).

Research also indicates that increased performance with computer related tasks were significantly related to higher levels of self-efficacy (Harrison and Rainer, 1997).

Computer anxiety has been proclaimed as a very significant inhibiting variable leading to emotional distress or the tendency of an individual to be uneasy, apprehensive and/or a fear towards current or future use of computers (Chu and Spire, 1991; Torkzadeh and Angulo, 1992; Igbaria and Iivari, 1995). Computer anxiety has been defined as a fear of using computers (Chua, Chen, & Wong, 1999). Computer anxiety may be a function of individuals' prior computing experiences, attitude towards computing, perceptions of self-

efficacy and expectations of success (McInerney et al., 1994). Research indicated significant differences for computer attitudes by the subject areas, Humanities, Sciences, Languages and General Science (Primary). Correlation analyses revealed significant associations between years of computer use and level of confidence, and computer attitudes (Teo, 2008). Research in the area of student teachers' knowledge of and attitudes towards computers has been conducted in various contexts over the past decade or so. In studies conducted in the UK in 1990, a substantial minority of students admitted to negative feelings about computers. The majority had little or no experience of computer use but generally agreed that knowledge of computers was important for teachers. In a longitudinal study of computer literacy skills among students in US, generally an upward trend was observed (Sheffield, 1998). It is imperative that the success of teaching- learning in this information and technological era depends largely on the attitudes of teachers, and their willingness to embrace the technology (Teo, 2006; Oliver, 1994) and their success in removing their psychological barriers.

Various studies have emerged to explore the computer self efficacy and computer anxiety of diverse populations with respect to gender, academic discipline and demographic variables etc at theoretical and practical levels. In the early phase the *gender-related differences* toward the use of computers are well established though the later half of the century found many researches with contrasting understanding and findings. Research has indicated that in West Europe males on average are often found to be more experienced about computing than females and also have more positive attitudes and self efficacy towards computing than females (Durndell *et al.* 2000). However Ray *et al.* (1999) examined three research questions that compared the attitudes of men and women about the use of technology and came forward with contrary findings. Females reflected greater comfort in using computers and held more positive attitudes than males regarding the value of computers to make users more productive.

Studies revealed differences in students' Internet usage levels based on the *academic discipline* (Woodrow, 1991). Students studying computer related disciplines appeared to have higher self-efficacy towards computers and the Internet though it is not always so as depicted by few contrasting research in the line (Saleh, 2008). Sam *et al.* (2005) examined differences in computer anxiety, computer self efficacy, attitudes toward the Internet and reported use of the Internet for undergraduates with different *demographic variables*. The findings suggest that the undergraduates had moderate computer anxiousness, moderate attitudes toward the Internet, and high computer self-efficacy and used the Internet

extensively for educational purposes. Undergraduates with lower computer anxiousness demonstrated more positive attitudes toward the Internet (Sam *et al.* 2005). Seferoglu (2007) examined the perceptions of students in the faculty of education regarding their self efficacy in relation to computer use and found the level of self efficacy to be high (Seferoglu, 2007). All these studies have implications for both education and professionals. However, previous indicators that men were more receptive to technology in learning and training environments appears to have changed (Ray *et al.* 1999).

Thus from the above discussion it becomes imperative that the knowledge of computer self-anxiety and self-efficacy is crucial for understanding the outcomes of the present days' teaching-learning process. Till date, not much is known regarding the computer self-anxiety and computer self-efficacy of the in-service secondary school teachers, especially in the developing countries. Motivated by this scenario, the present study was undertaken to explore the perceptions of Secondary School In-service Trainee Teachers in West Bengal (eastern part of India) regarding their self efficacy and computer anxiety in relation to selected variables under the study.

Methodology

Research questions

- What is the extent of computer Self-Efficacy and Computer Anxiety of trainee teachers?
- Whether there is any influence of discipline of study on Computer Self-Efficacy and Computer Anxiety of trainee teachers?
- Whether there is any effect of gender on Computer Self-Efficacy and Computer Anxiety of trainee teachers?
- Whether there is any effect of habitat on Computer Self-Efficacy and Computer Anxiety of trainee teachers?
- Irrespective of gender and discipline of study whether Computer Self-Efficacy of the trainee teachers are related with Computer Anxiety and Internet usage.

Sample

The subjects for this study were 84 in-service secondary school teachers from various parts of West Bengal who were pursuing B.Ed Programme at University of Calcutta. The demographic characteristics of the subjects are displayed in Table 1.

Research instruments

Tools Developed

(i) *General Information Schedule (GIS)*: The *first section* comprised of demographic characteristics of the subjects such as age, gender, and academic discipline. The *second section* included information regarding internet use.

Tools adopted

(ii) *The Computer Self-Efficacy Scale (Murphy et al 1989)*. Subjects responded to a five-point Likert type scale. High scores indicating a high degree of computer self-efficacy and low scores indicating low level of computer self-efficacy. The scale was tested for reliability and validity.

(iii) *Computer Anxiety Scale (Ceyhan and Namlu, 2000; Heinssen, Glass and Knight, 1987)*. The subjects responded on a five-point Likert type scale. High scores indicating a high degree of computer anxiety and low scores indicating low level of computer anxiety. The scale was tested for reliability and validity.

Matching criteria

(i) Age (30-40 years)

(ii) Only those teachers who at least have a preliminary/ working knowledge of computers were taken in to consideration. Teachers who have never used computers have been excluded from the final study.

Data collection and data analysis

The data were collected from the subjects at the end of their B.Ed programme (Session 2009-2010). Data analyses (t-tests, One-Way ANOVAs and Pearson's correlations) were carried out with the help of Origin 6.1 software.

Result and Discussion

This paper focuses on selected variables (computer self efficacy, computer anxiety and internet use etc) of the in service trainee teachers with respect to gender and academic discipline and residential status/ habitat. Male teachers of the faculty of Humanities exhibited relatively greater computer self efficacy than female teachers. However, this gender biasness

was absent for the teachers of the science stream. Additionally, significant positive correlations were observed between Internet use and the teacher trainees' computer anxiety and computer self-efficacy. Detailed analysis is presented in further section along with Tables, Figures and supporting discussions.

Table 1: The subjects' demographic characteristics

| Samples | Category | N= 84 | Percentage (%) |
|----------------------------|--------------------------------|-------|----------------|
| Gender | Male | 43 | 51.20% |
| | Female | 41 | 48.80% |
| Academic discipline | Science | 32 | 38.10% |
| | Humanities and social sciences | 52 | 61.90% |
| Residential Status | Urban | 26 | 30.95% |
| | Semi-urban | 28 | 33.33% |
| | Rural | 30 | 35.72% |

Interpretation of t-test results for differences in computer self efficacy and computer anxiety based on gender.

Table 2: t-test results for differences based on gender

| Variables | Gender | N | Mean | S.D | t-values | df | P |
|-------------------------------|--------|----|--------|-------|----------|----|---------|
| Computer anxiety | Male | 43 | 48.57 | 6.28 | 5.60* | 82 | P<0.05* |
| | Female | 41 | 56.32 | 6.40 | | | |
| Computer self-efficacy | Male | 43 | 126.28 | 11.14 | 8.20* | 82 | P<0.05* |
| | Female | 41 | 107.40 | 9.86 | | | |

***Significant at 0.05 level**

Table 2 indicates the t-test results for differences based on gender for computer self efficacy and computer anxiety of in-service trainee teachers of West Bengal. It can be observed from the Mean values that the secondary school teacher trainees' male and female, showed moderate computer anxiousness ($M = 48.57$ and $M = 56.32$) respectively. Likewise, the Male and Female trainees exhibited moderate computer self-efficacy ($M = 126.28$ and 107.40) respectively. However, the male trainees revealed high computer self-efficacy ($M = 126.28$) and lower computer anxiety ($M = 48.57$). Significant differences were noted in computer anxiety levels ($t = 5.60$) and computer self-efficacy ($t = 8.20$) based on gender. Male respondents recorded significantly lower scores of computer self-anxiety ($M = 48.57$) than females ($M = 56.32$) whereas, females recorded significantly lower scores in computer self efficacy ($M = 107.40$) than males ($M = 126.28$) as further illustrated in Figure 1.

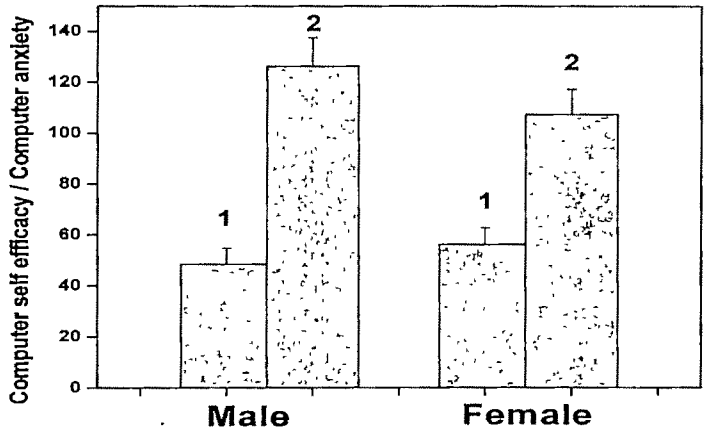


Figure 1: Graphical representation of computer anxiety and computer self efficacy based on gender. (1 indicates computer anxiety and 2 indicates computer self efficacy.)

The evidence from this study indicates significant gender differences as has been pointed out by earlier researchers (Bunz, 2009; Gefen and Straub, 1997; Nicholas et al., 2010). Some studies suggest that, the socio-cultural conditioning which prevails in a developing country, and which limits women’s accessibility to technology may be a reason for their high computer anxiety and feelings of lower self-efficacy (Enochsson 2005). Enochsson 2005 identified gender disparities in attitudes towards internet technology which impacted the influence on their user behavior. At the same time, there have been studies with contrasting findings (Hupfer and Detlor, 2006; Liang and Tsai, 2009). Ray et al (1999) found from their study that females held more positive attitudes than males regarding the value of computers to make users more productive. Women also reflected greater comfort in using computers than men. Though in the present study the differences in computer self efficacy and computer anxiety with respect to gender is found to be in support of some previous investigations. It appeared that gender biasness for computer self-efficacy disappeared completely when only the trainee teachers from the Science streams were considered (Table 4), though the total sample revealed significant gender differences (Figure 2). The reason for such type of mixed results may be due to the rapid growth of information revolution and the techno-friendly environment due to which the gender divide seems to be diminishing (Augusto, 2001) and may completely get extinct with the coming years as rightly pointed out by Enochsson, (2005).

Interpretation of t-test results for differences in computer self efficacy and computer anxiety based on academic discipline.

Table 3: t-test results for differences based on Academic discipline

| Variables | Academic discipline | N | Mean | S.D | t-values | df | P |
|------------------------|-------------------------------|----|--------|-------|----------|----|---------|
| Computer anxiety | Science | 32 | 46.42 | 7.96 | 4.57* | 82 | P<0.05* |
| | Humanities and social science | 52 | 55.16 | 8.84 | | | |
| Computer self-efficacy | Science | 32 | 128.82 | 10.78 | 6.52* | 82 | P<0.05* |
| | Humanities and social science | 52 | 111.66 | 12.26 | | | |

*Significant at 0.05 level

Further analysis revealed the influence of academic discipline (Science, Humanities and Social Science) on the Computer anxiety and self efficacy of the Trainee Teachers. T- test results showed (Table 3) significant differences in their computer anxiety and computer self-efficacy with respect to academic discipline ($t = 4.57$ and $t = 6.52$). Trainees from the Faculty of Science revealed significantly higher computer self-efficacy ($M = 128.82$) and lower computer anxiety ($M = 46.42$) than trainees from the Humanities discipline. Similar pattern of differences based on academic discipline has been revealed by Teo (2008). Chung et al. (2002) found significant differences in computer self efficacy with respect to academic discipline as people from science, technology or computer related discipline have higher self-efficacy towards computers and the Internet (Shaw & Giaquinta, 2000).

Interpretation of t-test results for differences in computer self efficacy and based on both academic discipline and gender.

Table 4: t-test results for differences in self-efficacy between males and females based on academic discipline and gender

| Academic discipline | Gender | N | Mean | S.D | t- values | df | P |
|---------------------|--------|----|--------|-------|-----------|----|--------------|
| Science | Male | 19 | 128.00 | 12.20 | 0.14 | 30 | P>0.05 NS |
| | Female | 13 | 127.22 | 10.34 | | | |
| Humanities | Male | 24 | 125.84 | 14.20 | 3.43* | 50 | P<0.05* |
| | Female | 28 | 99.90 | 12.48 | | | |

NS = Not significant, *= Significant at 0.05 level

Further analysis revealed significant differences in self efficacy of the Trainee teachers with respect to gender and academic discipline (Table 3). No significant differences were noted in self efficacy among science trainee teachers with respect to gender ($t = 0.14$). Contrary to

this significant differences were noted in self efficacy among female teachers belonging to humanities (t = 3.43). The results further illustrated in Figure 2.

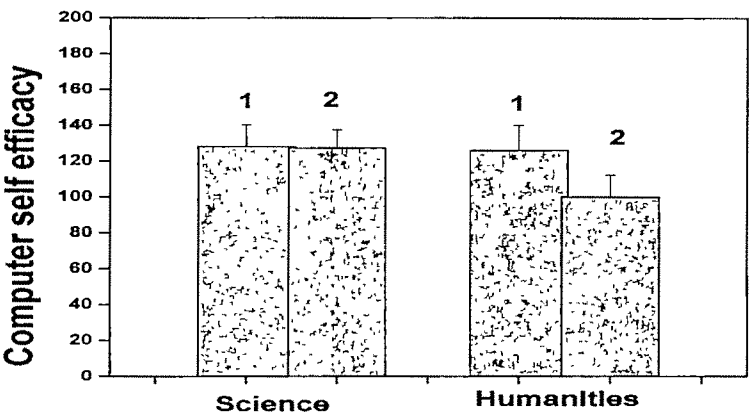


Figure 2: Differences in computer self-efficacy between males and females based on academic discipline. (1 stands for male and 2 stands for female.)

Interpretation of ANOVA results for computer self efficacy and computer anxiety based on residential status.

Table 5: One-Way ANOVA results of Computer Self-Efficacy and Computer Anxiety based on residential status

| Variables | Residential status | N | Mean | S.D | F | P |
|-------------------------|--------------------|----|--------|--------|---------|----------|
| Computer Self- Efficacy | Urban | 26 | 127.96 | 192.84 | 11.53** | P<0.001* |
| | Semi-Urban | 28 | 114.39 | 210.69 | | |
| | Rural | 30 | 110.60 | 187.28 | | |
| Computer Anxiety | Urban | 26 | 45.62 | 14.25 | 33.08** | P<0.001* |
| | Semi-Urban | 28 | 54.28 | 33.62 | | |
| | Rural | 30 | 58.54 | 56.95 | | |

**Significant at 0.01 level

Further the results of one way ANOVA (Table 5) exhibited significant differences in computer self efficacy and computer anxiety with respect to residential status of trainee teachers. Teacher trainees of urban origin exhibited highest computer self-efficacy (M = 127.96) and lowest computer anxiety (M = 14.25) while the reverse is true for the rural teacher trainees (M = 110.60 and M = 56.95) as indicated in Figure 3 strengthening that residential status (rural, semi-urban and urban) may be one of the significant influential variables for computer self efficacy and computer anxiety of the Trainee teachers. The

person is an outcome of its environment that equally determines the diverse flow of an individual, be it internal or external and there has been constant curiosity among the researchers to explore the influence of one's demography in the subsequent phases of life and the teachers psychological variables is one such factor which may influence their technological proficiency as has been supported by many researchers (Sam *et al* , 2005). Researchers suggested a direct positive relationship of socio-economic background with computer experience and an indirect negative relationship with computer anxiety (Bozionelos, 2004; Broos, 2006).

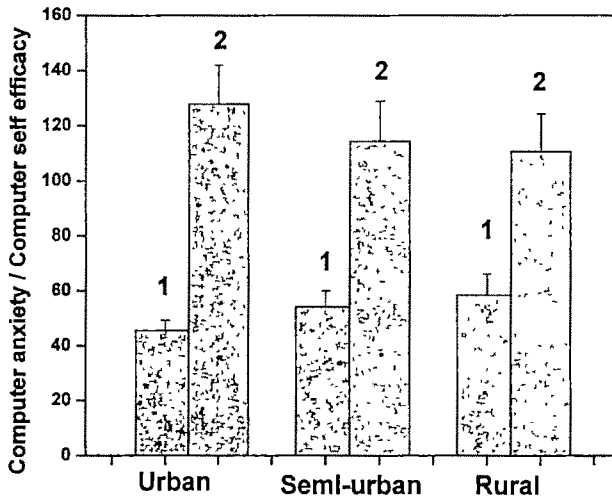


Figure 3: Computer Self-Efficacy and Computer Anxiety for differences based on residential status. (1 stands for male and 2 stands for female.)

Interpretation of correlation results of computer anxiety and computer self-efficacy of the trainee teachers

Table 6: Correlation between times spent on using Internet, computer anxiety and computer self-efficacy

| Variables | Computer anxiety | Computer Self- Efficacy | df |
|------------------------------|--------------------------|---------------------------|----|
| Time spent on using Internet | $r = -0.41^* (t = 1.99)$ | $r = 0.49^* (t = 3.42)$ | 82 |
| Computer anxiety | | $r = -0.632^* (t = 6.32)$ | 82 |

* $P < 0.001$

Findings revealed higher the use of Internet led to lower level of computer anxiety among the teacher trainees. The results shown in Table 6 indicated that there were significant

relationships between time spent in a week using the Internet and the secondary school teacher trainees' computer anxiety and computer self-efficacy. Trainees who spend longer hours using the Internet for educational purposes demonstrated lower computer anxiety and higher computer self efficacy in this study ($r = - 0.41$). There was a significant positive correlation between time spent in a week using the Internet and computer self-efficacy ($r = 0.49$). This finding seemed to indicate that higher levels of Internet usage indeed led to higher computer self-efficacy among the secondary school teacher trainees. Such examples of the positive correlation between time spent in a week using the Internet and computer self-efficacy are available in the literature (Sam, *et al.*, 2005). The correlation was found to be significantly negative between the times spent in a week using the Internet and computer self-efficacy. Furthermore, as expected there was a significant negative correlation between computer anxiety and computer self-efficacy ($r = - 0.632$ as indicated in Table 6).

Conclusion

The success of student learning with computer technology depends largely on the attitudes of teachers, and their willingness to embrace technology proficiently. Gaining an appreciation of the teachers' attitudes towards computer use may provide useful insights into technology integration and acceptance and usage of technology in teaching and learning. However, in integrating computers in education, researchers have been constantly proposing that positive attitudes toward computers and high computer self-efficacy and lower computer anxiety levels could be important factors in helping people learn computer skills and use computers which can be attained only with constant association and use of technology. As concern towards creating future teachers it is necessary that the teacher training programmes should be reoriented consciously to include computer training as a compulsory core subject so that the trainee teachers, irrespective of their prior computer accessibility and knowledge, can frequently use and access computers and resolve their psychological barriers (computer self efficacy and computer anxiety) for instilling computer literacy in their students' and set a step ahead towards achieving the objective of infusing ICT in teaching-learning.

References

- AGOSTO, D. E. 2001. Propelling young women into the cyber age: gender considerations in the evaluation of web-based information. *School Library Media Research*, 4. Retrieved October 4, 2010 from <http://www.ala.org/ala/mgrps/divs/aasl/aaslpubsandjournals>.
- BECKERS, J. J., & SCHMIDT, H. G. 2001. The structure of computer anxiety: A six-factor model. *Computers in Human Behavior*, 17(1), 35-49.
- BOZIO NELOS, N. 2004. Socio-economic background and computer use: the role of computer anxiety and computer experience in their relationship. *International Journal of Human-Computer Studies*, 61, (5), 725-746.
- BROOS, A. AND ROE, K. 2006. The digital divide in the play station generation: Self-efficacy, locus of control and ICT adoption among adolescents. The digital divide in the twenty-first century, 34 (4/5), 305-307.
- BUNZ, U. 2009. A generational comparison of gender, computer anxiety, and computer-email-web fluency. *SIMILE: Studies In Media & Information Literacy Education*, 9(2), 54-69.
- BURKHOLDER, J. N. 1985. An annotated bibliography of the literature dealing with teacher training in the uses of the computer in education. South Bend, IN: Indiana University at South Bend. (ERIC Document Reproduction Service No. ED 260696).
- BUSCH, T. 1995. Gender differences in self-efficacy and attitudes toward computers. *Journal of Educational Computing Research*, 12, 147-158.
- CEYHAN E. & NAMLU G. 2000. Along with its scoring key [Ref. THE Validity and Reliability Studies of the Computer Anxiety Scale on Educational Administrators], Turkish Online Journal of Distance Education-TOJDE July 2008, 9 (3).
- CHOU, H. W. 2001. Effects of training method and computer anxiety on learning performance and self-efficacy: *Computers in Human Behavior*, 17(1), 51-69.
- CHUA, S. L., CHEN, D., & WONG, A. F. L. 1999. Computer anxiety and its correlates: A meta-analysis. *Computers in Human Behavior*, 15, 609-623.
- CHU, P.C. & SPIRES, E. 1991. Validating the computer anxiety scale: Effects of cognitive style and computer courses on computer anxiety. *Computers in Human Behavior*, 7(1). *Research in Higher Education Journal The Effects of Students*, 7-21
- CHUNG, S. H., AND SCHWAGER, P. H. 2002. An empirical study of students' computer self-efficacy: differences among four academic disciplines at a large university. *Journal of Computer Information Systems*, 1-6.
- COMPEAU, D. R. AND HIGGINS, C. 1995. Computer self-efficacy: Development of a measure and initial test. *MIS Quarterly*, 19(2), 189-211.
- DURNDELL A., HAAG Z. AND LAITHWAITE H. 2000, Computer self efficacy and gender: a cross cultural study of Scotland and Romania. *Personality and Individual Differences* 28, (6), 1037-1044.
- ENOCHSSON, A. 2005. A gender perspective on Internet use: consequences for information seeking. *Information Research*, 10(4). Retrieved September 23, 2010, from: <http://informationr.net/ir/10-4/paper237.html> paper 237.

- GEFEN, D., & STRAUB, D. W. 1997. Gender differences in the perception and use of e-mail: an extension to the technology acceptance model. *MIS Quarterly*, 21(4), 389-400.
- HARRISON, A. W. & RAINER, R. K., JR. 1992. An examination of the factor structures and concurrent validities for the computer attitude scale, the computer anxiety rating scale, and the computer self-efficacy scale. *Educational and Psychological Measurement*, 52, 735-742
- HEINSEN, R. K., JR., GLASS, C.R., AND KNIGHT, L. A. 1987. Assessing computer anxiety: The dark side of the computer evolution. Paper presented at the meeting of the Association for Advancement of Behavior Therapy. Philadelphia.
- HOCHMAN, A., MAURER, M., & ROEBUCK, D. 1993. Buttons and cards and fields, oh my! *Tech Trends*, 38(2), 25-28.
- HUPFER, M. E., & DETLOR, B. 2006. Gender and Web information seeking a self-concept orientation model: research articles source. *Journal of the American Society for Information Science and Technology*, 57(8), 1105-1115.
- IGBARIA, M. AND J. IIVARI, 1995. The Effects of Self-Efficacy on Computer Usage. *Omega*, 23(6), 587-605.
- KEARNS, J. 1992. Does computer coursework transfer into teaching practice? *Journal of Computing in Teacher Education*, 8(4), 29-34.
- LIANG, J., & TSAI, C. 2009. The information commitments toward Web information among medical students in Taiwan. *Educational, Technology & Society*, 12(1), 162-172.
- MCINERNEY, V., MCINERNEY, D., AND SINCLAIR, K. 1994. Student Teachers, Computer Anxiety and Computer Experience. *Journal of Educational Computing Research*, 11(1). 27-50
- MINISTRY OF HUMAN RESOURCE DEVELOPMENT 1992. Programme of Action, Government of India, New Delhi.
- MURPHY, C. A., COOVER, D., & OWEN, S.V. 1989. Development and validation of the computer self-efficacy scale. *Educational and Psychological Measurement*, 49, 893-899.
- NATIONAL COUNCIL OF EDUCATION RESEARCH AND TRAINING 2005. "National Curriculum Framework-2005" NCERT, New Delhi.
- NICHOLAS, D., ROWLANDS, I., & JAMALI, H. R. 2010. E-textbook use, information seeking behaviour and its impact: case study business and management. *Journal of Information Science*, 36(2), 263-280.
- OLIVER, R. 1994. Information technology courses in teacher education: The need for integration. *Journal of Information Technology for Teacher Education*, 3(2), 135-146.
- RAY C.M., SORMUNEN C. AND HARRIS T M. 1999. Men's and Women's Attitudes toward Computer Technology: A Comparison. *Office Systems Research Journal*, 17 (1).
- RHONDA, C. 2002. Effects of technology integration education on the attitudes of teachers and students. *Journal of Research on Technology in Education*.
- RITCHIE, D., & WIBURG, K. 1994. Educational variables influencing technology integration. *Journal of Technology and Teacher Education*, 2(2), 143-153.
- SALEH, H. K. 2008. Computer self-efficacy of university faculty in Lebanon. *Education Tech Research Dev*, 56, 229-240.

- SAM H.K., OTHMAN A. E.A. & NORDIN, Z.S. 2005. Computer Self-Efficacy, Computer Anxiety, and Attitudes toward the Internet: A Study among Undergraduates in Unimas. *Educational Technology & Society*, 8 (4), 205-219.
- SCHUNK 1997. Goal Setting and Self-Efficacy during Self-Regulated Learning. *Educational Psychologist*, 25(1), 71-86
- SEFEROGLU S. S. 2007. Pre-service Teachers' Perceptions of Their Computer Self-Efficacy. *Fourth International Conference on eLearning for Knowledge-Based Society, November 18-19, 2007, Bangkok, Thailand*.
- SHAW, F. S., & GIACQUINTA, J. B. 2000. A survey of graduate students as end users of computer technology: New roles for the faculty. *Information Technology, Learning, and Performance Journal*, 18 (1), 21-39.
- SHEFFIELD C. J. 1998. A trend analysis of computer literacy skills of pre-service teachers during six academic years. *Journal of Technology and Teacher Education*, 6(2-3), 105-114.
- TEO T. 2008. Pre-service teachers' attitudes towards computer use: A Singapore survey. *Australasian Journal of Educational Technology*, 24(4), 413-424.
- TORKZADEH, G. AND I. ANGULO, 1992. The Concept and Correlates of Computer Anxiety, *Behaviour & Information Technology*, 11(2), 99-108.
- US DEPARTMENT OF LABOR 1999. Future work-Trends and Challenges for Work in the 21st Century. Quoted in EnGauge, "21st Century Skills," North Central Regional Educational Laboratory; available from <http://www.ncrel.org/engage/skills/21skills.htm> ; accessed 31 May 2002.
- WETZEL, K. 1993. Models for achieving computer competencies in pre-service education. *Journal of Computing in Teacher Education*, 9(4), 4-6
- WOODROW, J. E., 1992. The influence of programming training on the computer literacy and attitudes of pre-service teachers. *Journal of Research on Computing in Education*, 25(2), 200-218

G-145976

Conceptual Understanding of Educational Research for Increasing Output

Sujeet Kumar¹, Deepali Tyagi² and Jaya Jain³

Abstract : Research is the backbone of any system's development. For increasing the output or development in education field, during last decades, many researches have been done. Educational research in India has evolved over the years but not as an organized & systematic process. If one traces history one will find that it all began in India when the Bombay University awarded a PhD degree in education to Dr. D.V Chukermane in 1943 for his thesis entitled "Factor Analysis of Arithmetic Ability". Till this date more than sixty seven years have passed & more than eighty thousand thesis & project reports have been added to the area of education. It means the field of educational research is spreading fast in India but the research activity in this field has yet to assume a height of intensity (K C Panda, 1983).

Keywords: Conceptual understanding, Approaches to research

Introduction

It has been observed that most of the researchers are not aware of the basic concepts of the research. Most of the studies having quantitative nature of data are of repetitive nature failing to make any original contribution in any sense. Another weakness of current educational research lies in the selection of subjects & the sample. Very few researches in education have used valid and relevant tools. They have used mostly the tools/tests constructed by some other persons for some other purposes & for other populations. In many researches, even the reliability & validity of these tools are not re-established. Even review of related literature part is found to be the poorest. As the researchers are not clear about their basic concepts in educational research, they tend to fail in utilizing the review. Application of inappropriate statistical techniques is another predominant weakness of current researches in India. They are confused over the research approaches, research methods, and classification of researches on the basis of various research methods & how research approaches are different from one another. Taking , researches in philosophy of education for instance, in context of the above mentioned weaknesses due to lack of knowledge about basic concepts of educational research, Pal & Saxena notes that most of the researches have adopted the historical, documentary & descriptive methodology which, in fact, should not be considered as proper methodologies as descriptive and historical one. The descriptive method seems just as an elaboration of ideas of the given idea whereas the historical method is not truly understood

¹ Assistant Professor, Department of Education, Banasthali University, Rajasthan

² Research scholar, Department of Education, Banasthali University, Rajasthan

³ Research scholar, Department of Education, Banasthali University, Rajasthan.

by the researchers. C. Sheshadri, rightly says in this context that researches in philosophy of education continue to suffer from 'methodological anemia' & 'absence of the enterprise' necessary to break away from the beaten track.

This lack in conceptual understanding of the educational research has caused persistence of many ambiguities & confusions. This call for ascertaining the conceptual understanding of educational research & thereby increases the research output. The responsibility of increasing the research output is vested with all of us in the academia.

Unless we take conscious & concerned attempts to develop the conceptual understanding of educational research, the quality of our research work would be substantial & dismal and would be no more than a mechanical recycling of what has been produced in some western universities & a few top notch Indian Universities.

Most of our researchers have been infected by the deadly virus of 'conceptual misunderstanding'. So the need of the hour is to develop the conceptual understanding of the educational research. It is only in this way, the body of knowledge can be developed, which can remove the state of confusion or misunderstanding in which we currently find Indian education research. Identifying & recognizing the knowledge is the first step on the way to educational research & development. From the view point of knowledge, there are 3 ways to search knowledge. Firstly through skeptic or suspicion, secondly through Dialogue & thirdly through Phenomenology or Bracket method (T K S Lakshmi,2004).For searching the knowledge, the researcher analyses the variables and this is called Analytical Research. When the Researcher connects the facts of the variables the researcher synthesizes variables, which is called Synthetically Research. When the researcher works on 'what appears', it is called as Bracket Research.

At various levels or at multiple levels phenomena comprise of Task, Action, Activities, Events, Process, Deliberation, and Decision –making, Product generation and Mobilization. Phenomenon could be Complex, Composite, Fluid, Dynamic, Subjective, Personalized and Context specific.

On the basis of curiosity towards knowledge, researcher identifies the Research Questions. Research Questions can be drawn through field practice and observation, through the study of Related Literature, through Professional interaction and through Reflection.

Seeking answer to Research Questions depends on the Researcher's view about what and how he/she understands the phenomena; Secondly, it also depends on the Researcher's assumption and belief about the phenomena. Thirdly, it depends on the nature of phenomena

being studied. All these activities provide a direction to study all the approaches. These studies help the Researcher to understand the approaches of educational Research. The Researcher understands which approach he wants to apply in a particular research.

We know that there are 5 kinds of approaches. An approach is basically a broader way of understanding the context of Research. In Research, the approaches have certain norms which help in choosing the method for conducting Research. The main approaches are:

1. Scientific/Positivistic approach
2. Phenomenological approach
3. Philosophical Inquiry
4. Historical Approach
5. Hybrid Approach

1. Scientific/Positivistic Approach

This approach has certain characteristics such as:

Assumptions of Quantifiability. When the Researcher conducts research through this approach data or facts are drawn in quantitative terms. The approach of this research always shows stability because researcher tries to generalize it. The important characteristic of this research is keeping objectivity, reproducibility and manipulability in terms of testing. In this approach, the Researcher can make some assumptions for all kinds of phenomenon. Basic concern of this approach is theorization and explanation of the knowledge.

For example:-A psycho social study of learning difficulties in English at high school level. (Shikha Tiwari, 2010)

In this research, researcher has taken a quantitative data in terms of psycho social factors like number of students, scoring of achievements and logical thinking. All these scores are shown in quantitative terms through sample. But when the researcher analyses the data which has been taken through sample, the result of the data is generalized on the population.

2. Phenomenological Approach:

The next approach is Phenomenological approach also known as Bracket approach. When the researcher wants to conduct research through this approach the researcher makes contextual assumption because characteristics like Subjectivity, Personalized meaning, Fluidity and Non-replicability emerge in this approach. Research conducted through this approach basically is symbolic interaction between qualitative data and searching the Phenomena through all aspects of the context. This is called Ethno analysis or cohort

analysis. Basic concern of this approach is to give meaningful comprehensive description and to create context specific insight.

For example: - *An analytical study of expected behavioral changes with reference to knowledge level in Biology subject of 11th standard* (Yachna Dua, 2010).

In this research, the researcher analyses the Biology book as a qualitative data. This data has a documentative nature and this data cannot be generalized on other board subject because this research is only for 11th class biology book of the Rajasthan board . This type of research is related to basic knowledge of the particular phenomenon. This research provides a base for scientific approach.

3. Philosophical Inquiry:

This approach is very rarely used by the researcher because Logical Inquiry is a must in this approach and the researcher understands Logical Inquiry same as qualitative and phenomenological approach. In Logical Inquiry, the researcher conducts research through Induct and Deduct.

The Basic concern of this approach is reflection and clarification of assumptions, meanings and logical consistencies in thought. Logical Inquiry takes place through Induct and Deduct process. And in Induct & Deduct process, Analysis and Synthesis takes place. In this Philosophical approach, researcher uses rationale knowledge and not empirical knowledge.

For ex: - *A study of concept of education in Kautilya Philosophy and their relevance in present context* (Shavya Dubey, 2009)

This research is based on philosophical inquiry which bases itself on logical inquiry of the *Kautilya Philosophy*. Logical inquiry proves that the concept of education is already included in *Kautilya Philosophy* and then logically proved the relevance of the concept of education of *Kautilya Philosophy* in the present context. This type of the research provides depth knowledge and it is very rarely used in particular education sector.

4. Historical Approach

Historical Approach is often misunderstood by the researcher. In this approach, Historical method is employed. In this approach, the researcher reconstructs events. Historical approach is basically concerned with reconstruction of past context. Here, the analysis of documents need not necessarily be historical.

For ex:-*An Analytical study of the process of education in Buddhist Education Centers in 6th century B.C* (Jaya Jain, 2009)

In this research, the researcher goes to past through documents & monuments highlighted in the particular facts and systems of those times. This research helps the researcher to understand the educational systems of those times and helps to improve the present education system. The researcher can see the relevance of that system in the present context.

5. Hybrid Approach

It is a Multi- method of approaches. In this approach, researcher adopts different methodologies according to the objectives of the concerned research. On the basis of Qualitative analysis researcher adopts Quantitative Research processes like Survey, Field Experiment, Ex-post facts, Experimental/Case study etc or vice versa. We can say this type of approach adopts multi-methods of research. The basic characteristics of this approach are more depth, wider & flexible in choosing methodology. Also this approach is a combination of Subjectivity & Objectivity. In this approach Empirical as well as Rational Knowledge is used by the researcher.

The Basic concern of this approach is that it is meaningful & comprehensive generalization, reflection and clarification of the thought.

For ex: *Philosophy emanating from the lifestyle of students of higher education institutions* (Deepali Tyagi, 2010)

In this research, the researcher adopts multi methods in the research because the researcher wants to analyze the life style(refers to the routine such as the way of dressing , eating , language, technology usage , religious inclination , attitude , social life , health , academic life and activities like entertainment, personal relationships and sports) of students of higher education institutions in the **First stage**. This stage is analyzed through quantitative mode. In the **Second stage**, the researcher analyzes the thinking behind their lifestyle. This analysis refers to qualitative mode. In the **Third stage**, the researcher analyzes the philosophy of students on the basis of thinking through philosophical inquiry.

On the whole, here the researcher adopts multi methods of the research. This research has width, depth and is widely generalized.

On the basis of above approaches, we see there are different methods of doing research but methodology is very confusing part of the research because a researcher sees his/her own research with only one point of view whereas other experts or researchers see the same research with some other view point. So we can classify the researches with different views. These are following-

1. Methods classified on the basis of knowledge are

- a) Fundamental
- b) Applied
- c) Philosophical
- d) Historical
- e) Scientific

2. Methods classified on the basis of nature of Data are

- a) Qualitative
- b) Quantitative

3. Methods classified on the basis of process are

- a) Survey
- b) Field Experiment
- c) Ex-post facto
- d) Experimental
- e) Case study
- f) Action Research

4. Methods classified on the basis of analysis are

- a) Co-relational Study
- b) Trend Analysis
- c) Descriptive
- d) Causal – Effect relationship
- e) Demographic etc.

Conclusion

Authors have tried to resolve the issues regarding the conceptual understanding of the educational research for the aim of increasing the output. This issue can help the researcher in overcoming the so called 'conceptual misunderstanding' & in knowing what research is ? And what type of research is he/she doing? This article is intended to provoke thinking & understanding among researchers.

Reference

- DORAIRAJ, A. J. 2009. Enhancing the quality of Ph.D. thesis in English, University News, AIU publishing house: New Delhi.
- DUA, Y. 2010. An analytical study of expected behavioral changes with reference to knowledge level in Biology subject of 11th standard, Dissertation, Faculty of Education, Banasthali University. Rajasthan.
- DUBEY, S. 2009. A study of concept of education in Kautilya Philosophy and their relevance in present context, Dissertation. Faculty of Education, Banasthali University: Rajasthan.
- GABA, A. K. 2007. Research in Open & Distance Education: Status & Policy Issues, University News, AIU publishing house: New Delhi.
- JAIN, J. 2009. An Analytical study of the process of education in Buddhist Education Centers in 6th century B.C, Seminar paper, Faculty of Education, Banasthali University: Rajasthan.
- MISHRA, P.N and POOJA J. 2007. Research Methodology: Slips, Gaps & some Philosophical issues, University News, AIU publishing house, New Delhi.
- SAHOO, P. K. 2004. Evaluatory Research, Resource Lecture, U G C Refresher course, Banasthali Vidyapith: Rajasthan.
- TYAGI, D. 2010. Philosophy emanating from the lifestyle of students if higher education institution, Ph.D. Thesis. Faculty of Education, Banasthali University, Rajasthan.
- TIWARI, S. 2010. A psycho social study of learning difficulties in English at high school level, Ph.D. Thesis, Faculty of Education, Banasthali University: Rajasthan.

Construction of a questionnaire to assess young adults' conflict with their parents

Suchandra Banerjee¹ and Aditi Ghose²

Abstract : *Adolescence is a time of turmoil. Adolescents consider themselves to be mature adults while parents still consider them to be children whose actions need to be monitored. This leads to conflict between adolescents and their parents. Conflict affects the adolescent's academic performance and adjustment to society at large. The investigators constructed a questionnaire to identify the sources and measure the extent of conflict between adolescents and their parents. Experts validated the questionnaire and its reliability was also calculated.*

Key Words: Adolescent, Conflict

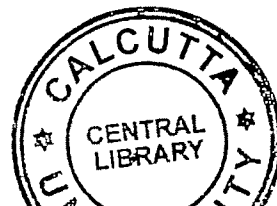
Introduction and Problem

Adolescence is a time of life when people are neither considered to be children nor are they considered to be adults. Though they are still under parental protection, their natural self assertion is increasingly in evidence. Parents who have been taking care of their children through the childhood years still consider their adolescent offspring as children and are filled with consternation about their welfare. (f) This problem is enhanced by the cultural gap between parents and children in contemporary society. Therefore, while adolescents demand freedom and independence, parents impose various restrictions on them. Parents fear that adolescents may fall in bad company and indulge in bad habits and are therefore keen to restrict them. This situation leads to conflict in many homes. (g) Adolescents, too, form attitudes and beliefs which are different from their parents (g). This results in distorted communication between parents and their adolescent children and is often the source of conflict.

Adolescence is often viewed as a period of change and reorganization in family relationships (Grotevant and Cooper 1986; Steinberg 1990). Prominent among these changes is the transfer that occurs from unilateral authority exercised by parents over their children to common authority in which adolescents share in the decision making process and exercise increasing amounts of personal jurisdiction over their own behavior. (Yousniss and Smollar 1985) This transfer and renegotiation of authority and control along with a large number of correlated biological, social, cognitive and self definitional personal identity transitions that occur during this period, results in

¹ Assistant Professor in Education, Mahitosh Nandy Mahavidyalaya, Jangipara, Hooghly.

² Professor, Department of Education, University of Calcutta.



change in the patterns of family interactions and is associated with the emergence and increasing of conflict between adolescents and their parents .(a)

Changes in parent adolescent relationships during adolescence, including change in conflict, have been found to be mediated by family circumstances, family surroundings, family structure, parental work status, personality characteristics and cognitive attributes of adolescents and parents, parenting styles and ethnic, racial and cultural contexts of the family (a).

Gender was found to be a differentiating factor in the frequency of conflicts over household routine tasks, personal look, irritating and or disruptive behavior and private autonomy and private jurisdiction. For each of these issues parents had more conflict with daughters than sons. (a)

An issue which generates more conflict between parents and their sons in comparison with daughters, was doing homework and getting good grades in school. (a) The mix of issues also varies across the gender lines. Fathers have more conflict with their sons when they do not show respect to their mothers or when they smoke. However, fathers have conflict with their daughters if they perform poorly in school. In contrast, mothers are most likely to complain when their sons spend time with their girlfriends or when their daughters neglect household duties.

Both teenagers and parents complain about each other's behavior. Parents often feel that they have lost control over their children. Adolescents want their parents to be clear and unchanging about rules and boundaries but at the same time may feel bitter about any restrictions on their growing freedom and ability to take their own decisions . (c)

Smetana conducted in-depth interviews with 102 children and adolescents including samples of preadolescents (M age=11.1years), early adolescents (M age=15.6 years) and late adolescents (M age=17.1 years), to determine the major issues creating conflict with parents. Content analysis of lists of disagreements across the age groups produced several groups of conflicting issues including routine tasks, appearance, personal behavioral style, homework and school performance, interpersonal relationships and control of interpersonal activities, health and hygiene , control of activities and finances. Females had more conflict with mothers than fathers although the total number of conflict issues did not vary from preadolescence to late adolescence. The type of conflict was related to the age level of boys and girls.

Early adolescents had more conflict with their parents regarding homework and grades compared to preadolescents or mid adolescents and less conflict over daily routines compared to late adolescents . (d) Smetana moreover found that both adolescents and their parents felt themselves to be victims of conflict. Adolescents felt that their rights were being restricted by parents while parents felt that their adolescents often defaulted in their moral obligations to the family [Durkheim 1995]

Maja Dekovic conducted a study on Parent Child Conflict: Possible determinants and consequences . The first aim was to examine the factors that might account for change in the level of parent adolescent conflict. These factors were grouped into two groups of variables

- 1) Personal characteristics of the adolescent , such as temperamental and pubertal timing and
- 2) Parent child rearing style.

The investigator examined the relationship between conflict levels , the quality of parent adolescent relationships and well-being of parents and their adolescents. The sample consisted of 508 families with adolescents between 12 and 18 years. A battery of questionnaires was administered to mothers, fathers and adolescents individually. Findings indicated that the amount of conflict was related to the temperamental characteristics of adolescents but not to pubertal timing or child-rearing styles. The study also found that parent adolescent conflict is more a predictor of parental wellbeing, rather than the adolescent well-being. (e)

The main cause of conflict is that parents consider the adolescent to be a child whose actions need to be controlled and monitored. The adolescent considers himself to be a mature adult who can take his own decisions concerning dress, choice of friends etc . (Kuhlen 1952)

Adolescent boys and girls are not expected to be children but at the same time they are not treated as adults. They are told that they have passed the phase of childhood but still their parents support them at almost every phase of their life. (Zanden 1997) Adolescents believe that times have changed but they fail to understand that moral standards have not changed .(Davis 1959) Their need to express their autonomy becomes polarized against their parents' sense of responsibility, leading to clashes. (Durkheim 1995) Conflict arises with anybody who obstructs this freedom. (Garrison 1965)

From childhood the adolescent is told to express himself as much as possible and then suddenly in adolescence he is expected to stop expressing his views on sex though it is natural for him to have a strong interest in the subject.(Hechinger 1963) At the Higher Secondary stage, when students are at the stage of late adolescence, conflict with parents escalates leading to much heartache and frustration among both generations. This is certainly a situation that needs to be avoided.

Objective research in the area of parent-child conflict may serve to alleviate the resultant heartache and frustration by identifying the sources of these conflicts. Perusal of literature yielded only one instance of attempting to assess the extent of parent child conflict (h).However this was not extensive and penetrating enough to be used as a complete tool for ascertaining the extent of parent –adolescent conflict, particularly in the prevalent urban/suburban Indian society. The investigator has therefore constructed a questionnaire designed to identify the sources and causes of conflict.

Objective of the Study

To frame objectives the key concept i.e. conflict has been defined:

Conflict can be defined as a violent collision, struggle or contest (Kirkpatrick 1983)

Construction of a questionnaire on parent child conflict of students at the 'plus two' stage

Making of the Questionnaire

Initial Quest: Several sources for guidance regarding the construction of a questionnaire were consulted. Borg and Gall's extensive discussion on questionnaires and their construction imparted concrete guidance. (1) Schumacher has discussed the forms of items in questionnaires. (9) Evans and Rooney (2008) have shown an example of a group administered questionnaire focusing on drug addiction of adolescents.

Title of the questionnaire

The title of the questionnaire is

Young Adults' Conflict with their parents

Identifying issues and constructing items: Discussions with parents , students, and other related people helped to identify the broad issues leading to conflict. Additional ideas regarding parent child conflict were garnered from the INTERNET (h). The issues identified were: -

1)Dress 2)Study 3)Friends 4)Phone/Gadgets 5)Money Matters 6)Food 7)Independence 8)Tradition 9)Morality 10)Addiction 11)Indisciplined Behavior 12)Privacy 13)Family Justice.

The investigator elaborated on each issue after further discussions with related protagonists and thus identified sub issues within each broad issue. Appropriate items were then constructed for each issue/sub issue. Particulars are as follows.

A) Dress –Parents often view new styles very outré , and often impractical and immodest or not in keeping with our culture. These can include hair – styles, western- wear, overtly informal wear, use of cosmetics, particular types of footwear , clothes that are too expensive, coloured lens etc. The sub-issues under this broad issue are:

- | | |
|-------------------------------------------------------------------------|---------|
| a) Hair: too short/ long, oiling, gel, color | 4 items |
| b) Conservatism: outré, immodest, western, cosmetics, too casual | 4 items |
| c) Expensive: items too costly or too many items. | 3 items |
| d) Unnecessary: clothes, lens, shoes. | 4 items |

B) Study: This can be about giving too little time /priority to studies, i.e., leaving it for the last when he /she is too tired, maybe late at night. Some parents feel that the students' grades have not come up to their expectations because the latter have not tried hard enough.. Parents often put pressure on their children to study what the latter are not interested in. The sub issues under this broad issue are: -

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| a) Study Time: - insufficient time, wrong time, and hobbies distracting adolescents from studies . | 3 items |
| b) Study Effort: - not giving importance to studies, studying without concentration, studying in the midst of distraction. | 4 items |
| c) Study Result and Ambition- unsatisfactory result, comparison with successful students, accusing one of not being bothered about one's own career | 3 items |
| d) What one Studies- content of study. | 1 item |

C) Friends – Parents want that the adolescent's peers should be well behaved, studious and should be good in studies. They do not want the adolescent to spend time with their peers at study time, meal time or house work time . They are often suspicious about the kinds of activities adolescents indulge in with their peers. The sub issues under this broad issue are:-

- a) **Choice of friends**- having friends of the opposite sex , friends considered to be unsuitable, friends too poor or rich. 3 items
- b) **Time spent with friends**- wrong time, excessive time. 2 items
- c) **Activities with friends**. seeing films, playing cards, engaging in adda. 1 item

D) Phone / Gadgets: - Parents are often concerned about the use of various gadgets by the adolescent like TV, Computer, Mobile phone etc They are worried if an adolescent views TV during study time or late at night

They are also concerned if an adolescent views TV continuously for a long time. They also become worried if an adolescent is too addicted to the computer, i.e., playing games or communicating with others on the Internet for a long time and often at the wrong time.

Parents are also concerned about the adolescent's excessive and unnecessary use of the mobile phone. They become worried if an adolescent gets a call at the wrong time . They also become annoyed if the adolescent makes too many calls and the phone bills are excessively high. The sub issues under this broad issue are:

- a) **TV**- wrong time, duration, selection of channels 6 items
- b) **Computer** – wrong time, duration, bad use (games, bad contacts) visiting cyber café frequently 4 items
- c) **Mobile phone** – wrong time, duration, expense incurred on calls 4 items

E) Money Matters: Adolescents often demand excessive pocket money for buying expensive dresses, shoes, etc which adults regard as unnecessary and useless. Conflict arises because adolescents do not like accountability about their pocket money. 2 items

F) Food: - Often adolescents take a lot of junk food and are unable to partake of family meals. Sometimes they do not like to take nutritious food for fear of gaining weight. The sub issues under this broad issue are:-

- a) **Emphasis on fast food**- refusal to eat vegetables and fruits, inability to eat home food, wasting food 3 items
- b) **Dieting**- eating too little, refusing carbohydrates. 2 items

G) Independence – During this stage, adolescents assert their independence, which their parents hate to give because they feel that, they will be losing the authority which they enjoyed for such a long period. Parents fret for the safety of their children, and cannot trust their decisions. The sub issues under this broad issue are:

- a) *Accountability* 1 item
- b) *Decision Making* 3 items
- c) *Over protectiveness*- unnecessary worries, interference, repetitive lectures. 5 items

H) Tradition- Adolescents often do not want to: 3 items
participate in various religious rites performed at home or refuse to behave in gender appropriate manner or often do not behave properly in front of guests.

I) Morality: Parents and adolescents often have a conflict of values. Adolescents often show laxity in honesty, aspire for something which their parents are adverse to, declare laxity in sexual matters, and often give excessive importance to money. The sub issues under this broad issue are: -

- a) *Materialism* -laxity in conforming to money and materialism 1 item
- b) *Honesty* - double standards of parents 2 items
- c) *Sex*- ideas about sex that clash with parents 1 item

J) Addiction: Addiction to cigarettes, alcohol or drugs causes severe disagreement between parents and adolescents. Apart from health and wellbeing, additives are quite expensive. Hence parents resent the adolescents' intake of these additives. But the adolescent gets pleasure by taking these and so he/she defies parental orders. 3 items

K) Indisciplined Behavior – Often adolescents use offensive language and converse loudly or behave badly. Many adolescents often keep their things in a disordered manner. The sub issues under this broad issue are

- a) *Communication* 3 items
- b) *Violence* 1 item
- c) *Orderliness* 3 items

L) Privacy - One major cause of conflict between parents and adolescents is that parents often intrude upon adolescent's private/personal life. Adolescents want privacy while interacting with friends, while dressing up, and in other activities. 2 items

M) Family Justice - gender bias 1 item

Response pattern:

Response to each item was envisaged in a Likert type pattern as follows:

- Very strong disagreement

- Strong disagreement
- Mild disagreement
- No disagreement

Scoring: The scoring key for the responses to the items is shown below:

| | |
|---------------------------------|----------|
| Very strong disagreement | 3 |
| Strong disagreement | 2 |
| Mild disagreement | 1 |
| No disagreement | 0 |

Therefore for each item maximum possible score is 3, and minimum possible score is 0.

The total score of each issue was calculated by adding the scores of the items within it. The minimum score for each issue is 0.

‘Conflict Score’ for each student was conceived on the basis of the sum total of the scores on all the issues. It gives an idea of the amount of conflict between the subject and his/her parents.

Maximum possible conflict score was 261 and minimum was 0.

Instruction A short instruction to the subject to help answer the questionnaire was inserted in front of the questionnaire.

Administration The questionnaire could be administered individually or to a group for individual responses. The responses were scored according to the scoring key as shown.

Content validation: The questionnaire was given to reputed educationists for validation. Requisite changes were made as suggested by the validators.

Pilot study: A pilot study was made on 30 class XI students. The questionnaire was administered to the students and their responses gathered on the basis of the results of pilot study. Again, certain alterations were made. They were as follows:

Two issues, ‘Music’ and ‘Sleeping’ were added.

The language of some of the items was altered.

The final form of the questionnaire

Following the alterations as related above, the final form of the questionnaire was obtained.

The organization of the issues, sub issues and the items pertaining to them in the final form of the questionnaire has been tabulated below:

| BROAD ISSUE | ISSUE | NUMBER OF SUB ISSUES | TOTAL NUMBER OF SUBISSUES |
|-------------------------|---------------------------|----------------------|---------------------------|
| Dress | Hair style | 4 | 15 |
| | Conservatism | 4 | |
| | Expensive | 3 | |
| | Unnecessary | 4 | |
| Study | Study time | 3 | 11 |
| | Study effort | 4 | |
| | Study result and ambition | 3 | |
| | What one studies | 1 | |
| Friends | Choice of friends | 3 | 6 |
| | Time spent with friends | 2 | |
| | Activities with friends | 1 | |
| Phone/gadgets | TV | 6 | 14 |
| | Computer | 4 | |
| | Mobile phone | 4 | |
| Money matters | | | 2 |
| Food | Emphasis on fast food | 3 | 5 |
| | Dieting | 2 | |
| Independence | Accountability | 1 | 9 |
| | Decision making | 3 | |
| | Over protectiveness | 5 | |
| Tradition | | | 3 |
| Morality | Materialism | 1 | 4 |
| | Honesty | 2 | |
| | Sex | 1 | |
| Addiction | | | 3 |
| Indisciplined behaviour | Communication | 3 | 7 |
| | Violence | 1 | |
| | Orderliness | 3 | |
| Privacy | | | 2 |
| Family justice | | | 1 |
| Music | | | 3 |
| Sleeping | | | 2 |

Extracts from the final version of the questionnaire are shown in **Appendix I**.

Reliability of the questionnaire:

The reliability of the questionnaire was found by the test retest method. The retest was conducted 5 months after the first administration of the test and the reliability was calculated through Pearson's Product Moment co-efficient of correlation.

The sample for ascertaining the reliability of the questionnaire was obtained from Class XI and XII students from urban and suburban areas around Kolkata. It consisted of 60 boys and 30 girls, ie, a total of 90 students

Reliability was found by calculating Pearson's Product Moment co-efficient of correlation for each issue as well as for the Conflict Score. The reliabilities are as follows:

| ISSUE | TEST RETEST CORRELATION | SIGNIFICANCE LEVEL |
|---------------------------|-------------------------|--------------------|
| Hair Style | .924 | 0.01 |
| Conservatism in Dress | .961 | 0.01 |
| Expenses on your dress | .951 | 0.01 |
| Unnecessary Items | .914 | 0.01 |
| Study Time | .927 | 0.01 |
| Study Effort | .957 | 0.01 |
| Study Result and Ambition | .922 | 0.01 |
| What You Study | .888 | 0.01 |
| Choice of Friends | .908 | 0.01 |
| Time Spent with friends | .928 | 0.01 |
| Activities With Friends | .827 | 0.01 |
| Television | .950 | 0.01 |
| Computer | .977 | 0.01 |
| MobilePhone/Landphone | .964 | 0.01 |
| Money | .918 | 0.01 |
| Food | .934 | 0.01 |
| Dieting | .903 | 0.01 |
| Answering For Actions | .902 | 0.01 |
| Decision Making | .936 | 0.01 |
| Over protectiveness | .952 | 0.01 |
| Tradition | .939 | 0.01 |
| Materialism | .910 | 0.01 |
| Honesty | .903 | 0.01 |
| Sex | .963 | 0.01 |
| Addiction/Habits | .953 | 0.01 |

| ISSUE | TEST RETEST CORRELATION | SIGNIFICANCE LEVEL |
|-----------------------|----------------------------|-----------------------|
| Communication | .932 | 0.01 |
| Violence | .899 | 0.01 |
| Orderliness | .930 | 0.01 |
| Privacy | .949 | 0.01 |
| Family Justice | .906 | 0.01 |
| Music | .927 | 0.01 |
| Sleeping | .883 | 0.01 |
| CONFLICT SCORE | .954 | 0.01 |

Thus the reliability of the questionnaire is high.

Delimitation- The questionnaire is suitable mainly for students at the 'plus two' stage in school.

Conclusion - The above explanations show that the questionnaire for measuring adolescent-parent conflict as in Appendix I may be taken as a valid and reliable tool to be used to assess the extent of aggravation or conflict between parents and their adolescent children. The different issues may also be scrutinized to locate the individual sources of conflict.

Extracts From the Questionnaire

YOUNG ADULTS' CONFLICT WITH PARENTS

You may be disagreeing about several aspects of your life with **either** or **both** of your parents. Either you or your parents may be justified. You may or may not show outwardly that you disagree, or you may protest in different ways. That is, the conflict with your parents regarding certain issues may be out in the open or it may be in your mind. Whichever it is, we would like to know the extent of your disagreement.

We have pinpointed certain issues on which young adults like you encounter these disagreements. Please read each issue carefully, and **consider the extent of the disagreement** regarding it and answer likewise, by ticking the appropriate response. A response sheet is provided to you separately.

Do you have disagreements with your parents about:-

ISSUE 1- HAIR STYLE

- a) Combing your hair
- b) Oiling your hair

- c) Applying gel or colour on your hair
- d) Length and cut of your hair

ISSUE 2 –CONSERVATISM IN DRESS

- a) Your dress is considered as too unconventional or improper or indecent
- b) Your dress is regarded as immodest (shameful)
- c) You want to wear western dress
- d) Use of cosmetics

ISSUE 3 –EXPENSES ON YOUR DRESS

- a) Buying expensive clothes
- b) Spending too much on clothes, cosmetics and accessories (*like bags, belts, jewelry*)
- c) The clothes and accessories you buy are regarded as overpriced

RESPONSE SHEET

Tick the appropriate response

Disagreement with your parents regarding

ISSUE 1- HAIR STYLE

| | Very Strong Disagreement | Strong Disagreement | Mild Disagreement | No Disagreement |
|----|-----------------------------|------------------------|----------------------|-----------------|
| a) | | | | |
| b) | | | | |
| c) | | | | |
| d) | | | | |

References

- DAVIS, M. 1959. Sex and the Adolescent, A guide for young people and their parents, 1st Edition. Heinemann Publisher pp 226-230
- DURKHEIM, K. 1995 Developmental Social Psychology. 1st Edition Blackwell Publishers. Pp 523, 524, 560, 561, 566, 572, 578
- EVANS, N. A and ROONE, F.B, 2008. Methods in psychological research Sage Publication. pp 241-243
- GARRISON, C. K. 1965 Psychology of Adolescence. 6th Edition. Prentice Hall. pp 277, 280-283, 285
- HECHINGER, M. F and HECHINGER, G. 1963. Teen Age Tyranny. 2nd Edition. William Morrow and Company, New York .pp 47-48
- KIRKPATRICK, E. M. 1983. Chambers 20th Century Dictionary, Allied Publishers Private Limited.
- KUHLEN, G. R. 1952. The Psychology of Adolescent Development. Harper and Row Publishers. pp 4-6, 244, 259, 260, 289, 563-571
- MC MILLAN J and SCHUMACHER S. 1993. Research in Education: A Conceptual Introduction Harper Collins College Publishers, New York. pp 242-248
- WALTER, E. 2005. Cambridge Advanced Learner's Dictionary. 2nd Edition Cambridge University Press. pp 6.

Development of Distance Education and Open Learning at the University Level In India

Nimai Chand Maiti¹ and Anwesha Acharya²

Abstract : Distance education in its earlier form of correspondence education started in the West in the middle of the 19th century, though distance education in India began almost a century later in the form of postal correspondence education. Delhi University was the first University which offered DISTANCE EDUCATION in 1962. In course of time the nomenclature of correspondence education got changed to distance education. After that there came a wave of establishing Open Universities in the country Indira Gandhi National Open University was established as a National Open University in 1985 Before IGNOU, Andhra Pradesh Open University was established on August 26, 1982, now renamed as the Dr. B.R. Ambedkar Open University. In this article a brief history of the development of Open and Distance learning (ODL) system at the university level in India has been discussed.

Keyword : Distance Education; Open Learning.

Introduction

We live in an age where open and distance learning is recognized and accepted as an indispensable part of mainstream education system. Open and distance learning (ODL) is fast developing as a force contributing to social and economic development. It plays a decisive role in the creation of global knowledge-based society. As the education has been expanding globally, all levels of education experienced expansion, the rate of growth was, perhaps, highest at higher education level. Between 1991 and 2006, the number of students enrolled in institutions of higher education world wide more than doubled from 68 to 143.9 million students (UIS, 2008). According to the UNESCO Institute for statistics (UIS, 2008), the GER increased from 13.8 to 25 per cent during this period. While all regions are beneficiaries of the expansion of higher education, the expansion has been uneven. The gross enrolment ratio (GER) between 1990 and 2005 almost doubled in the Arab region (from 11% to 22%), in South and West Asia (from 6% to 11%) and in East Asia and the pacific it more than tripled (from 7% to 25%). The increase (from 17% to 31%) in Latin America was also impressive. However, expansion of higher education in Africa was slow – an increase from only 3% to 5% [Varghese, 2009].

Starting from 17 Universities and above 400 Colleges at the time of independence, India today has 329 Universities, nearly 16,885 Colleges (including 1798 women's colleges), over 10 million students, nearly 0.45 million teachers and one of the largest higher education systems in the world (GOI, 2005). While more than 88% of the students study undergraduate programmes, 5% and 3.5% respectively study engineering and technology,

¹Associate Professor, Department of Education, University of Calcutta

² Research Scholar, Department of Education, University of Calcutta

and medicine ; and about 1.5% of students are pursuing course in agriculture. About 40.22% of the students are women, and the percentage of students from disadvantaged communities has not gone beyond 12. Since independence, the system has grown 14-fold in times of number of Universities, and 33-fold in the number of Colleges ; and its successful socio-economic planning through the Five Year Plans facilitated transition from an elitist system of education of the British era to a mass system of education subsequently. The Constitution of India guarantees free and compulsory elementary education up to grade VIII (age of 14) ; and, in 2002, India constitutionally guaranteed its citizens 'education' as a fundamental right. Though there is tremendous expansion in terms of numbers and access to education as briefed in Table-1 (upto 2003-2004), only 6% of the relevant age group study in higher education ; there is about 5% annual growth of student enrolment in conventional higher education; and nearly 40 million children are out of the provision of schooling (Panda, Venkaiah, Garg and Puranik, 2006).

Table 1 : Growth of Indian Education

| Levels | Institutions (thousands) | | Students (millions) | | Teachers (thousands) | |
|--------------------------------|-----------------------------------------|------------------------------------------------|---------------------|---------------|----------------------|--------------|
| | 1950-51 | 2003-04 | 1950-51 | 2003-04 | 1951-51 | 2003-04 |
| Primary | 210 | 638 | 0.19 | 114 | 538 | > 1,900 |
| Upper Primary | 13.6 | 206 | 0.31 | 42.8 | 86 | >1,500 |
| Secondary and Senior Secondary | 7.4 | 126 | 0.15 | 27.6 | 127 | > 1,800 |
| Higher Education | 27 u ^a 590 c ^a | 304 u ^a 13,500 c ^a | - | 10.5 (c+u) | - | 350 (c+u) |

a = Actual figures (not in 000,) ; u = University c = College

Source : Panda (2005)

However, in context of international comparison, Indian education system, like its economy, is one of the fastest growing systems in the world. The Union Minister for the Human Resource Development Mr. Kapil Sibal (March 12, 2010) said that we aim to increase our GER in higher education from the present 12.4% to 30% by the year 2020 but even after achieving a GER of 30%, there will be 150 million youth who will need to be skilled.

Thus, programmes for development of higher education and skill development will have to move parallel and would require private participation at large scale. He mentioned the RTE Act 2009 making education a fundamental right and said that our next aim is to universalize secondary education so that there is a critical mass of students for higher education as also qualified students for vocational education. Mr. Sibal mentioned that just like out sourcing of manufacturing, time has come in globalized economy for education to be developed at the doorstep of the student (in India) rather than students having to travel abroad to get the same.

Importance of ODL in India

Democratizing higher education by taking it to the doorsteps of the learners, ODL system seeks to open up the treasure house of knowledge to the maximum number of users. Thereby it would enhance their skills for productivity and further learning. Socially too, the University promises steady empowerment of those who suffered backwardness for want of these skills. Considering the current trends all over the world, the ODL system is going not only to complement the conventional system of higher education but may soon occupy the centre stage also in developing countries where the resources do not measure up to the vastness of the clientele.

The founding fathers of Indian Five Year Plans visualized the need for increasing the opportunities for higher education outside the formal system. They have made a reference in the 1st Five Year Plan (1951) itself to :

.... “facilities of private study through correspondence courses and radio talks organized as far as possible by the various Universities and allowing students to take the various examinations privately” (GOI, 1951, P.540).

In the Third Five year Plan (1961), the planners stated that :

“in addition to the provision in the plan for expansion of facilities for higher education, proposals for evening Colleges, correspondence courses and the award of external degrees are at present under consideration” (GOI, 1961, P. 589).

The National Policy on Education (NPE) 1986 stressed that distance education is a significant medium for the development and promotion of higher education. In this context, for the development and promotion of distance learning, the Central Advisory Board of Education (CABE), Government of India took the decision that in the VIIIth Five Year Plan every Indian State must set up a State Open University following the distance education pattern.

The Report to UNESCO of the International Commission of Education for the Twenty first Century [Delor Commission, 1994] recommended diversification and improvement of distance education through the use of the new technologies.

Special Subject Group on Policy Framework for the Private Investment in Education, Health and Rural Development, Prime Ministers Council on Trade and Industry, Govt. of India (Ambani and Birla, 2000) suggested to encourage the establishment of world class higher education facilities at every district head quarters and promote distance education as an alternative system of education on par with the formal system of education.

National Knowledge Commission (2006-2009) believes that a radical reform of the system of Open and Distance Education (ODE) is imperative to achieve the objectives of expansion, inclusion and excellence in higher education. It would not be possible to attain a Gross Enrolment Ratio of 15 per cent by 2015 without a massive expansion in ODE. In this endeavour, we must not forget that ODE is seen as inferior to conventional class-room learning. This perception and the reality, both need change. We must realize that ODE is not simply a mode of educational delivery, but an integrated discipline engaged in the creation of knowledge. The Commission recommended the following reforms :

1. Create a national ICT Infrastructure for networking ODE Institutions.
2. Set up a National Education Foundation to develop web-based common open resources.
3. Establish a credit bank to effect transition to a course credit system.
4. Establish a National Education testing service for assessing ODE students.
5. Facilitate convergence with conventional Universities.
6. Set up a Research Foundation to support research activity in ODE.
7. Overhaul training programmes for educators.
8. Increase access for learners with special need.
9. Create a new standing committee for the regulation of ODE.
10. Develop a system for quality assessment.

Tenth Five Year Plan (2002-07) emphasizes more on covering backward regions and disadvantaged sections. The following observation (GOI, 2002) gives a glimpse of the main thrust

The coverage of open Universities would, therefore need to be expanded to the backward regions, remote inaccessible tribal areas of the north east and some of the eastern states. During the Tenth Plan, IGNOU would set up Open Universities in states where none exist at present, expand the activities of Gyan Darshan and Gyan Vani. The target is to extend the

coverage of the open learning system to the backward regions, remote inaccessible areas of the northeast and low female literacy blocks in some eastern states.

This document sets an ambitious target of about 40% of the total students in higher education to be enrolled in open and distance learning institutions by 2007.

The Eleventh Five Year Plan (2007-2012) suggested to increase the percentage of each cohort going to higher education from the present 10% to 15% by the end of the plan.

As per the Eleventh Five Year Plan, out of the total enrolment of learners in higher education, 7 million learners are enrolled with Open and Distance Education. By 2007, this count was estimated to reach 16 million. A sum of Rs.8,116 crore had been assigned by the Government of India to promote distance education throughout the country.. The open and distance learning (ODL) system has emerged as a vibrant and dynamic component of higher education infrastructure in India. It provides access to quality education to about 25% of the total population of learners in the higher education sector. [Kashmir Forum Org.2010]

In this back drop, there is an increasing demand for distance education at higher education level, for, the Indian system of distance education is the second largest in the world (Panda, Venkaiah, Garg and Puranik, 2006) and definite plans of action have contributed to this tremendous growth. It will be interesting to examine historically the growth and expansion of such a huge system. The main focus of this article are to explore and examine the historical development of ODL in India.

Historical overview of distance education

The term distance education is a fairly recent one, but the concept it expresses is many years old. Distance Education (DE) had its roots in the correspondence courses which simply mean study materials, usually lecture notes, sent by tutors to the students by post. In 1728, when an advertisement in the Boston Gazette (named) "Cable Phillips, teacher of the new method of 'Short Hand' was seeking students for lessons to be sent weekly. Correspondence studies took shape in Bath, England, 1840 when Isac Pitman started offering his course in shorthand via the New Penny Post. The International Correspondence School, the oldest correspondence education institution of U.K. was established in 1880. A number of correspondence education institution came up during the 20th century in U.K. These institutions mainly helped the external degree students who studied at home with the help of correspondence courses. However, for various reasons these institutions did not have equal status of affiliated college or an university.

With the establishment of Open University of U.K. in 1969 followed by establishment at Open Universities in different countries across the world, the distance education grew at a faster rate and assumed a gigantic position at international level.

Distance education (DE) in India

In India, DE system originated at the University level and moved towards school. This is of course, a general feature in the history of DE internationally. In the Indian context, the inception of DE through correspondence education programmes had dual purpose. One is to divert the pressure group of aspirants of higher education to correspondence education programmes which made it cost effective. Two, democratization of higher education.

As we have already discussed that Distance education in its earlier form of correspondence education started in the West in the middle of the 19th century, though distance education in India began almost a century later in the form of postal correspondence education. The origin of postal education in India however can be traced to the educational activities of commercial institutions. The International Correspondence School (ICS) and the British Institutes (BIET) are the prominent institutes of postal courses, based in Bombay (now Mumbai), which appeared a variety of postal courses in area of engineering, management, architecture, interior decoration, dress making, journalism, beauty care, photography, cartooning, commercial arts, radio, transistor, refrigeration,, among others (Chib, 1977).

At the time of Independence from the colonial rule in 1947, India did not have a comprehensive 'National Policy of Education'. The only policy or development plan was 'Post-War Educational Development in India : 1944-84' – drawn by the-then British rules, though due to its narrow objectives it was not accepted by the Indian leaders. One such objective of the Five Year Plan was its advocacy for selected system of secondary and higher education and limited provision for technical and vocational education. Independence brought with it hopes for radical reforms in education. People in general felt that transformation of education, which the Indian leaders pleaded for during the 'freedom struggle' should be initiated as early as possible. Specifically no plea was made for introduction of distance education as a component of new India's education policy and programmes. But the general feeling was that the radical reorganization of the education system was one of the important national priorities (Naik, 1975) :

In the late 1950s, and the early 1960s, in the Independent India, the planners thought of correspondence education as a supplementary method to meet the growing demand for higher educational opportunities. The Planning Commission of the country in the Five Year Plan made the following observation :

“With the expanding base at the elementary and secondary education, the demand for higher education has greatly increased over the past . The rapid expansion in the number of the universities and colleges in recent years has led to a number of problems. These have been reviewed in the report of the University Grants Commission for 1959-60. The Commission has stressed that if deterioration is to be avoided, increase in the number of students should be accompanied by corresponding expansion of physical and other teaching facilities..... In addition to the provision in the plan for expansion of facilities for higher education, proposals for evening colleges, correspondence courses and the award of external degree are at present under consideration.”

In a country of India's magnitude and diversity, the conventional education system alone can not meet the needs and demands of higher education. The rate of expansion of higher education did not match with the rate of growth of economy. Meeting heavy expenses involved in establishment of University and Colleges for exorbitant number of needy students was a complex and difficult task in Indian system. The policy makers have therefore realized that the imperative need of distance education is to provide access to higher education to all those deprived sections of society who could not avail of it earlier. Perhaps it was in the early 1960s that the Planning Commission put forward a proposal of making use of correspondence education as a supplementary method to meet the growing demand for higher education. The- then Union Minister of education justified diversion of student masses to correspondence courses as follows:

“We in India have to see that the maximum possible effort is undertaken for the expansion and the improvement of educational facilities in the country, but this has to be done within the broad framework of our limited resources. The way out of this dilemma is through non-formal educational techniques which have been used in other countries and have to be thought in this country in order to meet this rising demand for higher education”. As a follow-up, the Central Advisory Board of Education (CABE), came with a resolution in its meeting held in January 1961, recommending that a detailed study of the correspondence courses be made by a small committee before arriving at a decision to start them in the country. Consequently, the Ministry of Education constituted such a committee under Dr. D. S. Kothari (then UGC Chairman). It recommended that a correspondence education course be started by the Delhi University although initially in the shape of a pilot project. The recommendation was accepted by the Central Government and as a result the Delhi University came up in 1962 with the first correspondence course of the country at the University level through the establishment of School of Correspondence Courses and Continuing Education in its campus and the Delhi University further got its momentum at the

hands of Education Commission 1964-66 and the UGC Committee on the Expansion of Correspondence Courses. The Education Commission (1964-66) recommended that :

“The opportunities for part-time education through programmes like evening colleges, and correspondence course, should be extended as widely as possible and should also include courses in science and technology (either at the degree or diploma level).... And also make accessible higher education to those who desire to study further but are compelled, on economic grounds, to take up employment after school education”. The First National Policy of Education (1968) highlighted that, “education through part time and correspondence courses should be given the same status as full time education.”

In the meanwhile the University Grants Commission (UGC) had taken initiative in streamlining the guidelines for correspondence courses. The Ministry of Education, Government of India had deputed three successive delegations to the-then USSR to study the system of correspondence education during the years 1967, 1968 and 1971 respectively. The UGC came out with the guidelines for correspondence courses during the year of 1969. It specified the aims of correspondence courses as providing educational opportunities to :

- Students who had to discontinue their formal education owing to pecuniary and other circumstances ;
- Students in geographically remote areas ;
- Students who had to discontinue education because of lack of aptitude and motivation, but who may later on became motivated ;
- Students who can not get admission or do not wish to join a regular college or university department, although they have the necessary qualification to pursue higher education;
- Individuals who look upon education as a life-time activity and may either like to refresh their knowledge in an existing discipline or acquire knowledge as a new area (UGC, 1988).

In the light of the recommendations of the Education Commission 1964-66 and the UGC Committee on the expansion of correspondence courses, the UGC decided to extend the scheme of correspondence courses to other Universities. Punjab University, Patiala was the second University in the country which was allowed to set up a full fledged Directorate of Correspondence Courses in 1968 with the offer of Pre-university and BA courses in English and Punjabi. The university was the first to offer Pre-University correspondence course with an enrolment of 2,400 students.

During the first decade of correspondence education (1962-72), the following 13 correspondence units at conventional universities were set up which offered different Graduate, Post-graduate and Certificate level courses (Anand, 1985).

By the end of the first decade (i.e. 1972), correspondence education in India gained considerable recognition and acceptance. The findings and suggestions of various committees and delegations

and the practices of CCIs motivated many educators to meet periodically to discuss the problems and prospects of correspondence education provided by the conventional universities through their separate schools/institutes/directorates/departments. The Indian Association for Continuing Education (IACE), formed during this period, acted as a catalyst for periodic meetings of the (correspondence) educators to promote academic climate in favour of correspondence education.

IACE's first major contribution was the organization of the first national seminar on correspondence education at Mysore in October 1972 in collaboration with the Mysore University. Later, three more national seminars were held in 1976, 1979 and 1982 at Patiala, Chandigarh and Trivandrum respectively. The first national seminar was significant in terms of rich discussions and valuable recommendations. It created an opportunity for the representatives of the participating universities to assess developments in the newly emerging sectors of education and to develop a perspective for the coming years. The Seminar envisaged the possibility that correspondence education could become an effective agent of change in regard to the quality of higher education at the first degree level and beyond. It further recommended that a Joint Committee of the UGC and the Inter-University Board (now Association of Indian Universities) should guide the Universities in promoting correspondence education (Satyanarayana, 1995).

The UGC which had all along been concerned with the development and streamlining of the scheme of correspondence courses convened in October 1974 at Delhi a conference of the CCIs with a view to assess the functioning and to discuss their problems and make suggestions for their improvement. The observations and recommendations of the conference may be classified under five heads :

- Scope of correspondence education in India
- Preparation of reading materials
- Future of correspondence education and the role of the state
- Organizational and administrative set up in a directorate of correspondence courses
- Ancillary services such as radio talks, TV presentations, etc.

The UGC's Standing Committee for Part-time and Own-time Education took stock of the deliberations of the conference and after detailed discussion evolved a set of guidelines for correspondence courses which were approved by the UGC in March 1975. The guidelines helped some universities in giving serious thought to the quality aspect of their correspondence courses, but by and large they were not taken seriously.

The 11th World Conference of the International Council for Correspondence Education (ICCE) was held in November 1978 at New Delhi. Some of the CCIs participated in the Conference highlighted the need for strengthening of correspondence education. They reaffirmed the earlier proposal to establish a central organization to promote and strengthen

correspondence education and to serve as a watch dog of the working of correspondence courses of different universities in the country. In spite of the acceptance of the proposal by the UGC as early as in 1972 and the continuous demand by the CCIs, no central organization could be established for streamlining, strengthening and monitoring correspondence education until the establishment in 1985 of IGNOU which was given the additional role of coordinating and maintaining standards in distance education in the country.

The nomenclature of correspondence education got changed and upgraded to distance education, in spite of its long journey continued to be of poor quality like many other countries overseas. Before the emergence of the open university system in the country, correspondence education was criticized by educationists and conventional university teachers for its ineffectiveness and inefficiency (IGNOU Project Report, 1985 ; Mulay, 1986; Ram Reddy, 1985; Satyanarayana, 1995 ; Prasad & Venkaiah, 2005).

In spite of several limitations, correspondence education continued to spread rapidly in the university system. Fast expansion, meagre student support services and lack of innovativeness of flexibility in course structure caused alarm among educational planners, and intensified their desire to reform the system.

The original guidelines issued by the UGC in 1975 were later modified to conform to the changes in the expectations of the correspondence education system. The revised guidelines clearly stated:

“Distance education is essentially based on the supply of instructional material but has to be supported and supplemented by personal contact programmes, student responses, library facilities, study centres, radio programmes and audio-visual aids, etc. A well conceived programme of distance education can be as effective and meaningful as regular day-time instruction in a college or a university department and every possible effort must be made to make it so effective”.

The UGC prescribed minimum standards of instruction for the grant of the first degree through non-formal distance education in the faculties of arts, humanities, social science, science and commerce. Some CCIs tried to follow the UGC guidelines while many failed to understand the spirit of new guidelines. By the time the idea of an open university was gaining ground, 34 dual mode universities were offering correspondence courses, and the student enrolment in correspondence courses was 6.6% of the total higher education enrolment (Tables 2 and 3).

Table – 2 : Enrolment in higher education vis-à-vis Distance Education

| Year | Universities/colleges (number) | (%) | Distance Education Institutions | | Total enrolment (number) |
|---------|--------------------------------|-------|---------------------------------|-------|--------------------------|
| | | | (number) | (%) | |
| 1975-76 | 2,426,109 | 97.42 | 64,210 | 2.58 | 2,490,319 |
| 1976-77 | 2,431,563 | 96.83 | 79,718 | 3.17 | 2,511,281 |
| 1977-78 | 1,564,972 | 95.56 | 119,163 | 4.44 | 2,684,135 |
| 1978-79 | 2,618,228 | 95.15 | 133,459 | 4.85 | 2,751,687 |
| 1979-80 | 2,648,579 | 95.10 | 136,699 | 4.90 | 2,785,278 |
| 1980-81 | 2,752,437 | 94.30 | 166,428 | 5.70 | 2,918,865 |
| 1981-82 | 2,952,066 | 93.84 | 193,691 | 6.16 | 3,145,757 |
| 1982-83 | 3,133,093 | 94.07 | 197,555 | 5.93 | 3,330,648 |
| 1983-84 | 3,307,649 | n.a. | n.a | n.a | n.a |
| 1984-85 | 3,404,096 | n.a | n.a | n.a | n.a |
| 1985-86 | 3,570,897 | 90.96 | 3,55,090 (27,629) | 9.04 | 3,925,987 |
| 1986-87 | 3,681,870 | 91.14 | 357,791 (28,745) | 8.86 | 4,039,661 |
| 1987-88 | 3,814,417 | 90.45 | 402,720 (36,4480) | 9.55 | 4,217,137 |
| 1988-89 | 3,947,922 | 89.68 | 454,243 (77,748) | 10.32 | 4,402,165 |
| 1989-90 | 4,246,878 | 88.84 | 533,441 (66,2650) | 11.16 | 4,780,319 |
| 1990-91 | 4,425,247 | 88.72 | 562,814 (75,417) | 11.28 | 4,988,061 |
| 1991-92 | 4,611,107 | 87.12 | 678,063 (122,531) | 12.82 | 5,289,170 |
| 1994-95 | 5,310,753 | 86.86 | 803,176 | 13.14 | 6,113,929 |

n.a. = not available

Source : Various UGC Annual Reports; Yadav and Panda (1999).

Table – 3 : Growth of Distance Education in India

| Year | Universities | Students (millions) | % of DE in total HE system (Total enrolment in HE) in millions |
|-----------|--------------|---------------------|----------------------------------------------------------------|
| 1975-1976 | 18 | 0.06 | 2.3 (2.49) |
| 1981-1982 | 22 | 0.19 | 5.7 (3.34) |
| 1990-1991 | 40 | 0.56 | 10.1 (5.55) |
| 1999-2000 | 74 | 1.58 | 17.0 (9.31) |
| 2000-2001 | 74 | 2.00 | 20.0 (10 approximate) |

Source : Kulandai Swamy (2002)

Open Universities in India

In the course of time, universities felt the need of having an open system of learning in the field of higher education on the pattern of open schooling. As a result, there came a wave of establishing open universities in the country with a clear-cut agenda of providing correspondence courses (with a huge choice at their disposal) to all types of learning whoever opt for such courses. However, by the time the idea of an open university was gaining momentum, 34 dual mode universities were offering correspondence courses. But no central organization (like the NIOS) could be established for streamlining, strengthening and monitoring university correspondence education in the country.

The introduction of open university system in the country has been linked with creation of open university in UK in 1969. During the International Education Year (1970) the Ministry of Education and Social Welfare in collaboration with the Ministry of Information and Broadcasting, the UGC, and the Indian National Commission for co-operation with UNESCO organized a seminar on ‘Open University’ in December, 1970. The seminar recommended the establishment of an open university in India on an experimental basis. Subsequently, the Government of India had appointed eight member working group on Open University under the Chairmanship of G. Parthasarathy to consider the establishment of open university. The working group had submitted its report in 1974, after having studied thoroughly the pattern of the open university, UK and the possibility of creating a open university in India. The working group recommended that ;

“The Government of India establish, as early as possible, an open university by an act of parliament. The university should have jurisdiction over the entire country so that, when it is

fully developed, any student, even in the remotest corner of the country, can have access to its instruction and degree”.

On the basis of the recommendation of the working group a draft bill was prepared by the Union Government for the establishment of a National Open University. However, the process was delayed.

The debate at the national level on an open university also stimulated thinking on the subject in various states. In Andhra Pradesh, a proposal to start an open university was made in 1978, but no progress was made. The Osmania University made proposals for starting an open education college to strengthen distance education. The college was to have full autonomy but the degrees were to be awarded by the Osmania University (Reddy, 1984).

While these efforts were on, the Government of Andhra Pradesh in 1982 decided to establish an open university to provide “access to higher education to the adult population of the State, for upgrading their functional capacities and improving the quality of their life in the context of broader social and political objectives of equalization of educational opportunities and the emergence of a new concept of life-long education’ (Government of Andhra Pradesh 1982). To give shape to this policy, the Government appointed a Committee and based on the committee’s report, established the Andhra Pradesh Open University on August 26, 1982 (now renamed as the Dr. B.R. Ambedkar Open University – BRAOU).

This has been hailed as the opening of a new chapter in the history of education in the country. With the establishment of BRAOU, interest in the subject at the national level increased rapidly. With the publication of the document ‘Challenge of Education’ by the Ministry of Education in 1985, the public debate on education in India was focused in a critical and dynamic way. One of the major conclusion arrived at in the Challenge of Education, was that the formal system itself could never meet all the educational needs and demands of the country. Another was that all attempts should be made to use the most advanced technology available in full support of the educational objectives to be attained. These two consideration led to an increasing conviction of the need to establish a national distance learning institution of quality which should cater to the needs of higher education in India as a whole.

On January 5, 1985, the then Prime Minister, Mr. Rajiv Gandhi, announced that a National Open University was to be established and on September 20, 1985, the Indira Gandhi National Open University came into being by an Act of Parliament (IGNOU, 1985).

The Indira Gandhi National Open University was officially inaugurated in November 1985. The Act of Parliament establishing the University is explicit about its aims :

“The University shall endeavour through education, research, training and extension to play a positive role in the development of the country, and ; based on the rich heritage of the country, to promote and advance the culture of the people of India and its human resources” (IGNOU, 1985).

The Act goes on to specify that the university will, among other things. “Strengthen and diversify the degree, certificate and diploma courses related to the needs of employment and necessary for building the economy of the country and provide access to higher education for large segments at the population and in particular the disadvantaged groups such as those living in remote and rural areas including working people, housewives and other adults who wish to upgrade or acquire knowledge through studies in various fields” (IGNOU, 1985).

The Government of Maharashtra appointed a Committee with Dr. K.G. Deshmukh, Vice-Chancellor, Amravati University, as the Chairman to examine the feasibility of establishing an open university in the state. The committee which submitted its report in early 1985, had not only strongly recommended the establishment of an open university in the State but had also given a detailed blueprint.. The Yashwant Rao Chavan Maharashtra Open University (YCMOU) thus came into existence on 1 July 1989 through Act XX (1989) of the Maharashtra State Legislature. YCMOU is the fourth State-level open university in India, situated at Nashik near Mumbai (YCMOU, 1994).

Before YCMOU came into existence, two more provincial government viz., those of Rajasthan and of Bihar, had established, respectively, Kota Open University (1986) and Nalanda Open University (1988). The Madhya Pradesh State Government announced its open university namely, the Madhya Pradesh Bhoj (Open) University, in 1993; the Gujarat Government announced the setting up of Ambedkar Open University in 1994; and Karnataka State the Karnataka Open University in 1994 (Manjulika and Reddy, 1996). Of late, the State Government of West Bengal and Uttar Pradesh have also added Netaji Subhash Open University and U.P. Rajshree Tandon Open University respectively. A few more State Governments are also contemplating the establishment of their own State Open Universities.

Table -4 : Enrolment in Open Universities and Correspondence Courses (1996 to 2003)

| Year | Total enrolment in higher education | Enrolment in open universities | Enrolment in open universities (% of total) | Enrolment in correspondence courses | Total enrolment in open and distance education |
|---------|-------------------------------------|--------------------------------|---------------------------------------------|-------------------------------------|------------------------------------------------|
| 1996-97 | 6842598 | 294947 | 4.31 | 819110 | 1114057 |
| 1997-98 | 7260418 | 316089 | 4.35 | 959228 | 1275317 |
| 1998-99 | 7705520 | 247168 | 3.21 | 868459 | 1115627 |
| 1999-00 | 8050607 | 381862 | 4.74 | 971991 | 1353853 |
| 2000-01 | 8399443 | 379286 | 4.52 | 1055317 | 1434603 |
| 2001-02 | 8821095 | 632214 | 7.17 | 1123344 | 1755558 |
| 2002-03 | 9516773 | 765489 | 8.04 | 1012779 | 1778268 |

Source : Distance Education Council.

Indira Gandhi National Open University (IGNOU) has established itself as one of the world leaders in open and distance learning. IGNOU which was established as a National Open University in September 1985 is currently blazing a new trail in higher education. The launching of this university is the outcome of the concern and desire to democratize higher education, make it available to a larger segment of the population, especially the disadvantaged groups and individuals, to bring higher education to the door steps of all those who look for it and to promote and maintain national standards in education by offering a wide variety of academic programmes (such as professional, non-professional, and science and technology) with uniform syllabi.

IGNOU was also assigned the role of an apex body charged with the determination and promotion of distance education standards in the country, a function similar to that performed by the University Grants Commission (UGC). As an apex body, IGNOU acts as a coordinating, monitoring and funding agency (partially) for the distance education system in the country. For this purpose the university has constituted the Distance education council (DEC) which started functioning in April 1992.

IGNOU is mandated to :

- Wider access by offering high quality innovative and need-based programmes at different levels, especially to the disadvantaged segments of society at affordable costs by using a variety of media and technology ; and
- Promote, coordinate and regulate the standards of education offered through open and distance learning in the country. [IGNOU Profile, 2007]

Besides IGNOU, there were 9 open universities and 64 Institutions of correspondence and Directorate of Distance Education in conventional universities in India in 2000-2001. Now, in India, there are 14 open universities , 13 state universities and one national open university – IGNOU. IGNOU now has a cumulative enrolment of about 15 lakh offers a total of 126 programmes and has a teaching staff of 325 and 1157. [Knowledge Commission, Current Scenario]. Distance education in correspondence courses is provided by other regular universities. In 2003, open universities served only eight per cent of the total higher education enrolment, while correspondence courses constituted nearly one fifth of the total higher education enrollment.

In 2004-05, around eleven million people were enrolled in higher education in India, of which the open and distance education institution (DE's) of conventional colleges served 10 per cent of higher education need. In 2000-01, only 4 per cent of the higher education need was served by open universities, but in 2003-04, the figure was around 10 per cent, while the overall distance education contribution is around nineteen per cent.

Conclusion

In India, ODL opportunities at the University Level have increased enormously. It has already established its credibility and recognition. The growth of distance education, both qualitative and quantitative, has been phenomenal, particularly after the introduction of the single mode open universities in the country. ODL educators today are equipped with a variety of means and methods of education and training to make the education resources accessible to all those who want to have it as per their need and convenience. ODL implies innovations in teaching- learning strategies to produce socially desired citizens. And if it succeeds in producing socially desired citizens, it can claim as a quality system of education. The ODL should be linked with specific objectives of society to be achieved. To see whether ODL really is able to change the structure of society, whether it is based on the educational and training needs of society, there should be provision for continuous evaluation of its social impact. The ODL system should empower people to manage change in social system.

Accompanying the rapid growth in ODL system there has also been an increasing interest in the quality of education by this new mode. Funding for ODL has been increasing year after year. Whether these funds are being utilized in a more productive manner in ODL than in conventional education, is one of the major issues that has brought in enhanced scrutiny from the general public and the government in developing country like India.

The process of convergence between distance education and conventional education is becoming faster and the convergence will continue to be necessarily fast in the future. There is an immediate need for the planners and policy makers to formulate necessary policies and strategies so as to enhance the quality of distance education in India. And, there is also a need for research and empirical evidence to establish credibility and respectability of DE system in the context.

References

- CHOUDHURY, S., 2009. Perspective of Quality Distance Education, Journal of All India Association for Educational Research Vol. 21, Dec. 2009.
- GARG, V. & et al. (Ed), 2006. Four Decades of Distance Education in India, Reflections on Policy and Practice, Viva Book Pvt. Ltd., New Delhi.
- INDIRA GANDHI NATIONAL OPEN UNIVERSITY, 2006. Development of Distance Education ES 364, School of Education : New Delhi.
- LEARNER SUPPORT SERVICES, ES 313, Staff Training and Research Institute of Distance Education, IGNOU, 2008 Print Production IGNOU, New Delhi.
- MANGAL, S. K. & MANGAL, U, 2009. Essential of Educational Technology, New Delhi: PHI Learning Pvt. Ltd.
- SRINIVASTAVA, M., 2002. A Comparative Study on Current Trends in Distance Education in Canada and India, Turkish Online Journal of Distance Education – JOJDE Oct . 2002, Vol. 3, No.4.
- VARGHESE, N.V., 2009. Globalization, the Current Economic Crisis and Higher Education Development, Journal of Educational Planning and Administration Vol. XXIII, No. 3, July 2009.

Educating the Girl Child: A Review

Mita Banerjee¹ and Hema Datta²

***Abstract:** Elementary education for the girl child underwent significant improvement with the launch of the Sarva Shiksha Abhiyan (SSA). Enrollment of the girl child in elementary schools has increased, largely due to the proactive approach of various government agencies. Steps had been taken to improve the motivation of the girl child for attending and continuing at school, such as the mid-day meal scheme, financial incentives, etc. However, much needs to be done still. The paper examines the entire scenario, identifies the common problems facing the education of the girl child with reference to Howrah, a district in West Bengal, and suggests steps which can be taken to further improve the reach of elementary education among the girls. Innovative approaches with a creative temper can bring the girl child to school and ensure her continuance throughout the elementary education stage.*

Key word: Elementary Education, Dropout.

Introduction

The unequal status of men and women in India has been a source of concern for educators, social activists, administrators and other members of the social spectrum. Education for the girl child is critical in shaping the future of the nation since children spend most of their time at home with their mother. An educated woman as a mother therefore would serve as a guarantee that the child would be exposed to an environment where education, at least at the primary level, would be readily available. Therefore education of girls has been high on the national agenda since Independence. Special commissions and committees were set up from time to time to assess the progress of girl's education and propose suitable interventions to promote their participation in education. The National Policy of Education, 1986 and its Programme of Action (revised in 1992) gave education a mandate to work for women's equality and empowerment (India Education Report: A profile of basic education; 2002).

A major conceptual shift is noticed in the last decade in the approach to the education of girls. Education of girls is increasingly being seen as a basic human right and a crucial input for national development. (India Education Report: A profile of basic education; 2002).

In this study we have focused on the need for ensuring education for girls in the elementary level and examined the various avenues used to increase female education. The study relies on important data relating to education of girls in the district of Howrah in West Bengal. The district was so chosen because it can be said to be a representative of the entire country in a microcosmic form, especially with regard to variation in educational opportunities, economic

¹ Professor, Department of Education, University of Calcutta

² Ph D. Scholar, Department of Education, University of Calcutta

advancement and other vital human development parameters. The primary focus of the study shall be the activities related to Sarva Siksha Abhiyan (SSA)-one of the most important activities undertaken to universalize primary education among the masses. Accordingly, all data used has been sourced from the District Information on School Education of Howrah.

Objectives of the study

- To assess the enrollment of girls in elementary education;
- To examine the drop-out rate and the causes thereof;
- To examine the facilities provided for promoting education for girls at the elementary level;
- To suggest ways through which elementary education among girls can be universalized, leading to their empowerment.

a) Enrollment of girls in elementary education

Figures related to percentage of girls enrollment in total enrollment over the years in the district of Howrah as shown in the following table.

Table 1: Percentage of girl's enrollment in different years

| Year | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
|------------|---------|---------|---------|---------|---------|---------|---------|
| Percentage | 50.12 | 50.16 | 50.17 | 50.01 | 50.06 | 50.00 | 49.74 |

Source: DISE

The data as specified above clearly proves that the male-female ratio in the population of Howrah in the age group of school enrolment is evenly skewed and that almost the entire population of girls in the district who have attained the minimum age of attending school have admitted themselves to a school in the district. As such, the situation of admission to a local elementary school in the district is satisfying.

b) Drop-out rate and causes thereof:

The figure below reveals the average drop out percentage of girls and boys (2005-06 to 2008-09).

Table 2: Percentage of dropout (average) among girls and boys

| Boys | Girls | Total |
|-------|-------|-------|
| 20.86 | 16.73 | 18.79 |

Source – DISE

Table 3: The figure below reveals the percentage completion in four years (2005-06 to 2008-09)

| Percentage completion in four years. | Boys | Girls |
|--------------------------------------|-------|-------|
| | 31.67 | 36.27 |

Source- DISE

The source reveals a dropout rate of 16.73 % for girls and 20.86 % for boys during the period, 2005-2009. The four-year completion rate for girls in the district during the said period of study was 67.36 %, which translates to the fact that as much as 32.64 % left school before completing four years of education- quite a significant figure in terms of human resource wastage. Added to this is the fact that as much as 21.86 % of girl-child enrolled in an elementary school had to repeat one or more grades during schooling. The high grade-repetition rate has been a catalyst in the dropout rate among girls at school. The dropout rate for boys is significantly higher than those of girls largely because of the economic pressure of earning a livelihood for the family either locally or outside the district. However, the dropout rate for girls, which stands at 16.73 % is of great concern since most of the schools of the district have easier accessibility and with improvement in communication facilities, dropout because of access problems can be ruled out. Also, the main reason for the higher dropout rate for boys cannot be applicable to girls, since no family would send their girls out of station as earning members. Girls from underprivileged families are often made to work domestically or locally, and this may not be a compelling reason for failure to attend a local school for a couple of hours a day, especially with the facility of mid-day meal scheme at the elementary stage.

The causes for the high drop-out rate among girls can be classed under three broad reasons, namely, social, economic and school and family environment. It has been a common observation among educators and policy makers that a large section of the society still finds little compelling reason as to why a girl should be properly educated. Early marriage and the realization that educating girls may be 'economically futile' put off many families from actively pursuing girls' education. (The Disappearing Girl Child; NCERT; 2009)

As a large section of the families are economically underprivileged, the cost of educating girls may be a burden, especially, since there may not be a direct financial gain out of the cost of education at the elementary level. Among the economically challenged classes, the motive of a financial gain out of any expenditure is high. Given the fact the elementary education in itself has little opportunities vocationally, most families do not have any faith in

educating girls beyond a few primary years.(The Gender Gap in Basic Education: NGO's as Change Agents;2000).

Also, the environment of the girl child at home and at school is often not conducive for education. They suffer from neglect and their needs are often ignored at home and at school. Lack of female teachers often influences families who have orthodox inclinations and prevent girl child from accessing schools.

c) Facilities provided for promoting elementary education for girls:

With most of the reasons which keep a girl child away from continuing at school identified, governments have devised various programmes and schemes to arrest the drop-out rate for girls in elementary education. Some of such steps are:

State Resource Group (SRG) on Girls' Education: The SRG was formed in 1999 involving individuals working on women's issues. It included members from State Council for Education Research and Training,(SCERT) West Bengal and West Bengal Board of Primary Education (WBBPE).The members have been actively involved in framing curricula at the district level keeping in mind gender issues and local conditions. The development of the gender sensitization module adapted from the UNESCO publication-'From Girl Child to Person' is an important achievement of the SRG. The module has been incorporated in the primary teachers' training programme.

Gender Sensitization of primary Teachers: The gender sensitization programme took off with the training of key resource persons in primary teachers' training. A number of programmes of this nature has been held in the district in the last few years to increase the sensitivity of the primary teachers for girls at schools.

Awareness Campaign for Girl Education: A number of visual and audio visual media has been developed in collaboration with UNICEF in Bengali. Animated films on a girl-Meena-was dubbed into Bengali and shown across the district, especially at schools to increase awareness among the masses of the importance of girl education. This was followed by the – Ma o Meye mela-' The Mother and Girl Get-together'- an immensely popular programme that paved the way for the school based Mother Teacher Associations. Awareness rallies in this context are held regularly across the district on 26 September, the birthday of social reformer Iswar Chandra Vidyasagar. The day is observed as 'Matrisachetanata Dibash'- Mothers' Awareness Day.

Formation of Mother Teacher Associations: It has been realized that the awareness of a mother can play a crucial role in ensuring the continuity of a girl-child at school. This

realization developed in the Mother Teacher Association- a body of mothers and teachers, set up to work actively in monitoring the environment of the girl child and improve the motivation for a girl child to continue at school. The usual activities of the MTA include making door to door visits within the concerned area to identify out of school children during enrolment drive and irregular attendants during retention drive, supervision of smooth implementation of mid-day meals in primary schools, etc. The MTA was launched in 2001. An audio-visual aid was developed as a training aid for the Key Resource Persons responsible for imparting the training to the district level Resource Persons on this issue. Over a thousand MTAs have been formed in the district till date since 2001. Over the years the functions of the MTA have been evolving. They have been recently playing active roles in ensuring penetration of government sponsored schemes for elementary education among girls among the populace, building separate toilet facilities for girls at primary schools, arranging visits of medical practitioners at schools to take care of the medical problems of the children, planning cheap but nutritious food at mid-day for the children, supplying textbooks, notebooks and stationaries among the students, etc.

The aspects highlighted above clearly reveals the flexible nature of the SSA. With the over all aim of ensuring education for all, the SSA has been playing a critical role in mobilizing human and financial resources with the help of the government agencies. The special programme- National Programme for Girls at Elementary level (NPEGEL), launched for SC/ST/minority girls for better promotion of education among them, is also playing an active role in ensuring continuing education among the under-privileged classes of girls.

d) Ways through which elementary education among girls can be universalized:

Though significant improvement has been made in the past few years with regard to promotion of elementary education among girls, the figures before us are still far from satisfactory. Unless we can ensure universalization of elementary education among the girl child, we cannot expect the succeeding generation of women to become torch bearers of the future of the country as mothers of children.(Girl Child in India;1991). The following steps can be taken to further spread the light of elementary education among girls:

1. The government should spend at least 9 % of the budgetary allotment on education and at least half of the allotment of education should be for elementary education. Currently, over half of the budgetary allotment on education goes for the promotion of higher education in the country.

2. Steps should be taken to link elementary education with vocational schemes in schools according to local conditions. Such schemes can attract the girl child to education because her education would cease to be a burden on the family.
3. Increase monetary incentives to families sending their girls to schools and rewarding them with every succeeding year of a girl's continuing education.
4. Undertake active monitoring programmes at the locality levels to identify causes which may keep a girl away from school. If the issue is economic, steps to alleviate the economic condition of the family, can prevent an early drop out of a girl from school.
5. Build elementary schools exclusively for girl children so that families who are culturally conservative, may not hesitate to send their children to schools.
6. Adopt legal steps to discourage the employment of children, especially girl children, in domestic or commercial establishments. Though a law in this context is in place, flouting of the law is fairly common.
7. Establish centers of alternate or open schooling with flexible modes of instruction, so that girls can manage both their domestic commitments and get education. In this context, the available infrastructure of elementary education can be used at timings convenient for the girl child. (Survey Report and Proposal for Girls Education and Empowerment; 1998).
8. To create a pool of resource persons and educationists at the block level so as to impart the necessary technical expertise in the implementation of elementary education programmes.
9. To encourage the non-governmental organizations (NGOs) to set up facilitation camps and programmes to spread elementary education among girls, especially in the rural areas.
10. Red-tape has often caused under-utilization of allotted resources in the field of elementary education. Adequate flexibility should be given to the resource persons at the block level so that all allotted resources earmarked for elementary education for the girl child can be utilized to the full.

Conclusion

The fact that the Sarva Shiksha Abhiyan (SSA) has played a significant role in augmenting the spread of elementary education among the girl child, reveals promise. An intensification of the campaign for the education of the girl child coupled with flexibility in approach and

pragmatism, can go a long way in ensuring universal elementary education, especially for the girl child. The study revealed a significant increase in the enrollment percentage of girls. The dropout percentage of girls is much less compared to that of boys. This proves beyond doubt that the facilities and the activities undertaken for educating the girl child has helped in creating awareness about the importance of school education among the girls. This study has also revealed the causes of dropout among the girls. Ways or suggestions have been given to identify and combat the hindrances in ensuring education among the girl child.

References

- DUTT, S 1998. Survey Report and Proposal for Girls Education and Empowerment, UNICEF: New Delhi
- DEVASIA, L. et al.1991. Girl Child in India, New Delhi : Ashish Publishing House.
- DEVENDRA, K. and KUMAR,K. 2009. The Disappearing Girl Child, In Journal of Indian Education, New Delhi: NCERT.
- GOVINDA, R. (Ed) 2009. India Education Report: A Profile of Basic Education, New Delhi Oxford University Press
- WAZIR, R. (Ed) 2000. The Gender Gap in Basic Education: NGO'S as change agents, New Delhi: Sage Publications. [www.wb.ssa.nic.in/ Girls main, html](http://www.wb.ssa.nic.in/Girls%20main.html).

Environment Related Behaviour of Students with Visual Impairment: An Exploratory Factor Analysis

Madhumala Sengupta¹, Debasri Banerjee² and Pintu Kumar Maji³

Abstract: The environment related behaviour is the most important aspect of environmental education as the ultimate objective of it is to develop the students in such a way so that they became the active citizens of the country. These future citizens include the students with special needs as well, which is in tune with the concept of inclusive education. The construct of environment related behaviour has been researched extensively across diverse social situations. But there is hardly any empirical study on environment related behaviour in the context of students with visual impairment. This study seeks to find out the underlying factors of environment related behaviour in this respect. The researchers propose four factors (Civic responsibility, Personal life style change, Individual civic action and Cooperative civic action) of environment related behaviour and constructed a tool accordingly. However the factor analysis on the scores of 140 samples extracted nine factors. The factor analysis is a mathematical approach to understand the components of a construct. It may not always reflect the real situations which are subjectively interpreted by the individual researchers.

Key words: Environment related behaviour, Factor analysis and Students with visual impairment.

Introduction

In the 70s, the United Nations organized conferences which set out the goals of environmental education as fostering clear awareness of social, cultural and ecological awareness including their interdependence, providing every person with opportunity to acquire knowledge, values, and attitudes, commitment and skills and last but not least creating new patterns of behaviour towards environment (UNESCO, 1977). Today we have left behind the emphasis on environmental awareness although it is the most important first step in environmental education. At present the paradigm has shifted towards development of environmental literacy, responsibility, competence and citizenship (Smyth, 1995). Obviously emphasis is given on personal choice and effective action which underpin the importance of individual behaviour in the context of environment. The renowned scholar on environmentalism Smyth further stated that environmental education aims to prepare a thoughtful and restrained community to usher in an ecologically sustainable society. Thus ecological behaviour, environmental action, environment related behaviour (ERB) or pro-

¹ Associate Professor, Department of Education, University of Calcutta, Kolkata.

² Associate Professor, Department of Education, University of Calcutta, Kolkata.

³ Assistant Professor, Department of Education, Sarsuna College, Kolkata.

environmental behaviour, whichever terminology is used, are the end states of environmental education.

Defining ecological behaviour

Ecological behaviour is defined as the action which contributes towards environmental preservation and conservation of the environment (Axelrod & Lehman, 1993). It simply means that environmental awareness develops an attitude which in turn predisposes an individual to behave in such a way that benefits the environment. The term pro-environmental behaviour is also used by other researchers like Kollmus & Agyeman (2002) who opined that it is a sort of behaviour that consciously seeks to minimize the negative impact of one's actions on the natural and built world.

Since its inception in school curriculum, the environmental education embraces two approaches namely instrumental approach and emancipator approach. Sometimes both the approaches are combined together. During 60s and 70s instrumental approach to environmental education considered that desired behaviour outcome is known, agreed on and can be precipitated by carefully designed environmental education curriculum. In this case classical approach awareness led to action when the objectives of environmental education are spelt in behavioural terms.

However, the emancipatory approach to environmental education follows a different path. According to this view life is a continuous change and ever presents uncertainty. So pre planned behaviour towards environment may not always serve the purpose. The participants and policy makers should devise co owned objectives based on shared meanings. The plan of action must be jointly decided and of course should be self determined (Wals & Jickling, 2002).

The emancipatory approach in environmental education is a learning process supported by participatory methods designed to develop responsible citizens who have acquired the action competence (Van Der Hoeveen et al., 2007).

Determinants of Behaviour

Whatever the approaches to environmental education are, the objective remains the development of responsible citizenship behaviour. Thus assessing environment related behaviour remains the important aspect of environmental education research. The empirical research in this regard requires that the types of ecological behaviours are analysed so that

research tool on environment related behaviour can be effectively constructed for further studies. However, it is to be admitted that it is not easy task to develop a measuring tool of such behaviours. Peoples' behaviours are preceded by behaviour intention and other normative factors. In this respect the theory of reasoned action proposed by Ajzen (1991) should be taken into account. Ajzen's (1991) revised model of theory of planned action is shown below.

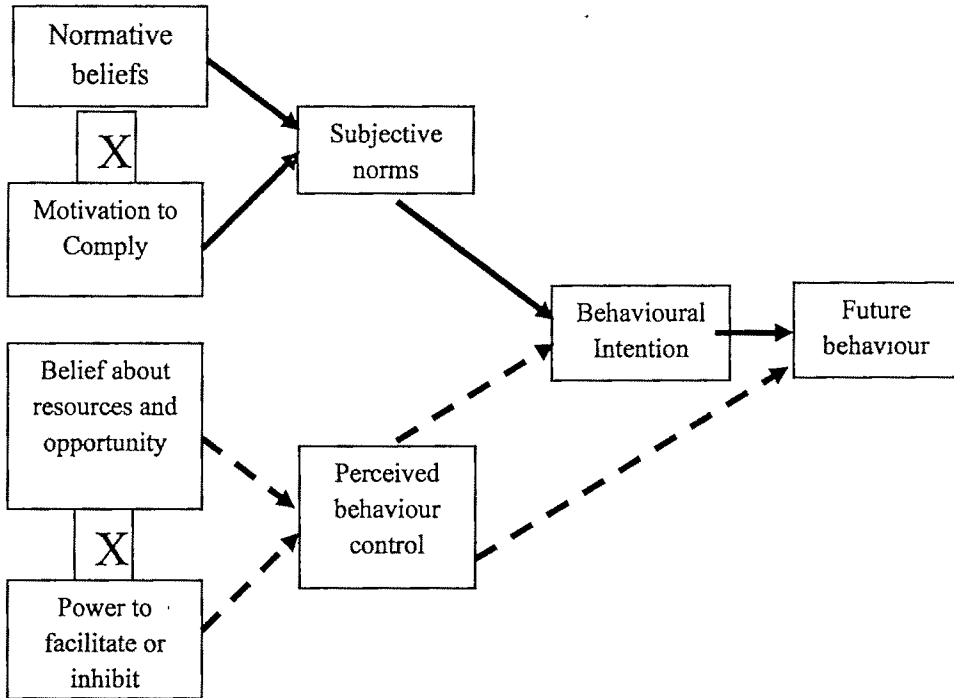


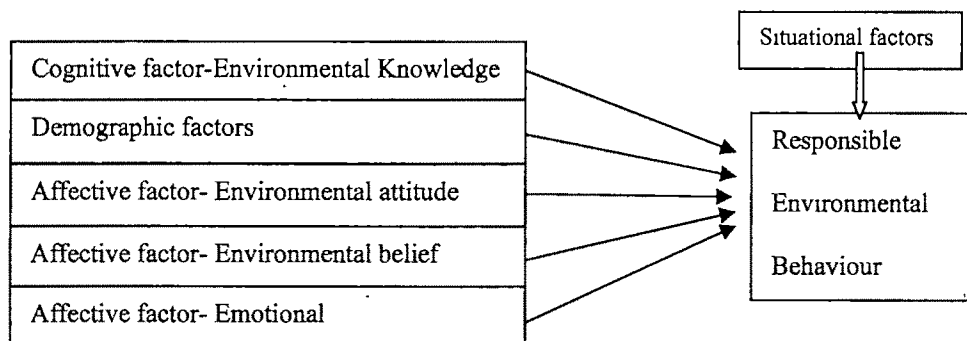
Figure : Ajzen's revised model of the theory of planned behaviour.

(Source: Ajzen, 1991)

According to this theory self reported behaviour of the individual depends on motivation, subjective norms and perceived behaviour control and of course behaviour intention. Initially, the environmental behaviour was sought to be explained in a simplistic way and the following diagramme depicts the linear relation.

Knowledge \Rightarrow Awareness/ Attitude \Rightarrow Action (Hungerford & Volk 1990)

However later researches indicated that the relationship is not so simple rather involves other variables too. A modified theory of behaviour in the context of environment may be considered diagrammatically in the following manner.



Source: Huang & Yore (2003)

As environmental behaviour is affected by so many factors, it is not easy to study or measure it. More over, its measurement is mainly based on self report and rarely on observation of actual practice of such behaviour is seldom undertaken. The self reported behaviour may not reflect the actual situation because people often report socially desirable behaviour as part of image management. Besides, there are many situational constraints for which people are unable to perform the behaviour apart from an individual's own perceived self control. Different concepts of perceived control include internal locus of control (Oskamp et al., 1991 and Gamba & Oskamp, 1994)), self efficacy (Axelrod and Lehman, 1993), feeling of powerlessness (Busch, Rossenagel & Weigel, 1984). Because of the presence of such variables the environmental behaviour is not only susceptible but also inconsistent.

Components of ecological behaviour

The ultimate goal of environmental education is citizenship training and as such the environmental education is now termed as responsible ecological behaviour indicating individual action to protect and improve the environment.

Responsible ecological behaviour is characterized by the following activities-

- Ecomanagement- It refers to action through which individual physically help to prevent or solve environment related problems for example, recycling, energy saving etc.
- Consumer/ economic actions- These are the activities undertaken to protect environment or solve environmental problems by financial support or putting financial pressure on those responsible environmental degradation, for example, boycott, selective or conservationary uses of goods, donating money to environmental group.
- Political action- It signifies utilizing political rights like voting, participation in environmental group activities, being active in green party etc to resolve the environmental issues.
- Legal action-The examples of this type of environment related behaviour are using legal suits to protect environment, reporting pollution related violation to the authorities and such activities.
- Persuasion action- In this kind of action people try to argue, convince or generally persuade and motivate others to adopt pro-environmental behaviours (Culen & Volk, 2000).

On the basis of these constructs, Culen & Volk (2000) constructed four subscales of environment related behaviour namely persuasive action, political action, consumer action and eco-management action.

Environmental action on the part of the people may be direct or indirect. Moreover, this action may be carried out individually or collectively. Jenson (2002) had shown how environment related behaviour encompasses four types of actions.

Table 1: Four Types of Environmental Actions

| | Direct action | Indirect action |
|-------------------|----------------------|------------------------|
| Individual action | 1 | 2 |
| Collective action | 3 | 4 |

The collective action in the context of Asian countries like ours is important as our society is collective in nature and group activities get precedence over individual action. Hence types 3 and 4 of environmental behaviours are expected to be more effective although types 1 and 2 can not be neglected.

The researches on responsible environmental behaviour sought to differentiate between specific and general environmental behaviour. Different studies included different number of ecological performances. 30 to 65 such performances were identified and researched by Kaiser & Wilson (2000), Kaiser & Keller (2001), Kaiser, Wolfing & Fuhrer (1996) mentioned 38 different types of ecological behaviour when they constructed the General Environment related Behaviour.

Some specific environment related behaviour (ERB) is cited below with their construct definition.

Table 2: Specific Environmental Behaviour and Construct Definition

| ERB | Scale label | Construct definition |
|------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Recycling | Recycle | The used items are again utilized to produce some new product. |
| Spatial mobility | Commuting | Using travel mode ecologically, using more effective vehicle. |
| Energy conservation | Energy saving | Using fossil fuel sustain ably. |
| Political action | Ecological advocacy | Utilising political forum for environmental protection |
| Consumerism | Life style change | Restraining one's over consumption, reducing buying spree. |
| Ecological house keeping | Changes within the household | Restraining purchase of household items or accessories. Eating seasonal locally available food, adopting lower impact diet. |
| Ecological farming | Sustainable agriculture and poultry | Sustainable use of fertilizer GM seeds, animal rearing. |
| Water conservation | Water management | Minimizing wastage of water, water harvesting. |
| Regulatory support behaviour | Supporting environmental causes | Donating money to environmental groups, attending environmental programmes, showing solidarity with such groups, buying energy efficient products. |

The environment related behaviour has been extensively studied as it is the ultimate objective of environmental education. One short coming of the study of environment related behaviour is that although a broad range of different behaviours have been included but the situational factors were often ruled out. The situational factors are sometimes beyond the control of the individual for which despite the existence of behaviour intention, the actual behaviour may not take occur. The problem is that the planned behaviour theory focuses on the role of individual, neglecting wider social issues (Bamberg & Moser, 2007). The theory of planned behaviour also does not account for habitual behaviour (Fransson & Garling, 1999).

Thus ecological behaviour is the function of situational factors. In this respect the difficulty value of behaviour is to be ascertained. The difficulty value of behaviour is the function of the proportion of people performs it. The more difficult an ecological behaviour is performed by an individual the higher is the level of environment related behaviour of that individual. Kaiser (1998) used the Rasch model of environment related behaviour and proposed that general ecological behaviour is essentially an achievement test of over all ecological engagement. The Rasch model (Wright & Masrters, 1982) distinguishes between behaviours on the basis of item difficulty.

Perceived behaviour control and subjective norms are powerful correlates of environment related behaviour. In this context, the cognitive dissonance theory (Festinger, 1957) should be implicated. The individual wants to take action according to norms he subscribes to and whenever this does not occur, there is a dissonance. The person, in order to overcome these discrepancies or to reduce internal inconsistencies, gradually develops habitual behaviour patterns. This is what happens when individual possesses a particular norm about environment and encounter difficulties to perform related behaviour.

Recently another related theory regarding environment related behaviour has been proposed by Thogersen & Olander (2003). It has been aptly named as 'spill over effect'. According to this theory people need consistency in their life. When they begin to develop pro environmental attitude and practice in one area of their life, they seek to reduce dissonance by transferring these to other areas of life until it becomes habitual. Thus development of initial environment related behaviour are likely to spill over in other areas turning an individual more and more environmental crusader.

Initially the Environment related behaviour scale had 25 items. It has already been mentioned that most of the items have high to moderate item-total correlation excepting a few ones like item no.6, 10 15. However, for the final version these items were retained for their face validity. The scale is subsequently used in further research work.

Exploratory Factor Analysis

Exploratory factor analysis is used to uncover the underlying structure of a relatively large set of variables. As there is dearth of clear prior theory regarding environment related behaviour, this method was used in this study to intuit the factor structure of the data by using factor loadings. The objective of exploratory factor analysis is to identify number of common factors influencing a set of measures. In this study it was endeavoured to find out which responses hang together thereby seeking to identify the nature of construct.

Statement of the problem

Despite the rich literature on ecological behaviour, the construction of measuring tool in this respect is necessary especially in regional languages, which can be applied in different situational contexts. So the aim of the study is to develop such a scale for the Bengali speaking school students with visual impairment. It is expected that the questionnaire will be applied for further investigation in the field of environmental education.

Methodology

On the basis of the responses of the sample group, this study intends to examine the different environmental practices reported to be carried out or willingness to practice in future by the subjects in order to analyze the concept of environment related behaviour. The method of factor analysis was used to understand the underlying constructs encompassing such behaviours.

Participants

The present samples comprise 140 students with visual impairment ranging in age from 14-20 years and studying in general and special educational institution and comprised both girls and boys, from class IX to XII under the West Bengal Board of Secondary Education and West Bengal Council of Higher Secondary Education. The sample was drawn from total number of 42 schools (both special and general educational institution) from various districts in West Bengal. In the present study stratified random sampling was done.

Development of the questionnaire pertaining the Environment Related Behaviour of the Students with Visual Impairment.

A questionnaire was developed by the researchers. The components of environment related behaviour were extensively studied on the basis of the review of literature. A substantial number of probable items were selected. The views of the experts, who either teach environmental education or engaged in such types of research, were solicited in this regard. Since the tool was to be applied to the students with visual impairment subjects, special precautionary measures were taken while items were chosen. On the basis of the consensus reached by the experts and the researchers 25 items were included in the scale. The name of the scale was **Environment Related Behaviour of the students with visual impairment**. The items were formatted as Likert type with five response options namely 'always', 'often', 'sometimes', 'rarely' and 'never'.

Procedure

As the questionnaire was not in Braille form, the researchers read out the items to the students and tape recorded their responses. Approximately, on an average, 60 minutes was required to interview each student with visual impairment. For this reason students with visual impairment met the researcher after or before the school hours and sometimes at their hostel. The researcher tried to maintain the objectivity as far as possible.

Data analysis

SPSS package was used to extract factors by 'component analysis method. Principal component analysis and common factor analysis are not exactly same. However, in this study the SPSS follows the method of principal factor analysis. The factor analysis method analyzes the larger number of variables and explains these variables in terms of their common underlying dimensions. The objective is to reduce a group of inter-correlated variables into smaller sets of uncorrelated factors to achieve parsimony (Field, 2000). In other words the purpose of Factor analysis is data reduction and exploring theoretical structure, in this case that of environment related behaviour.

Findings

There are four steps in factor analysis which were followed in this study. These are

- Data collection and generation of correlation matrix
- Extraction of initial factor solution
- Rotation and interpretation
- Construction of scales of factor scores to use in further analysis.

As a first step to factor analysis the communalities of the items are to be explained first. It was found that item numbers 6, 10, and 15 have less than 0.5 communality, that is, namely 0.37, 0.45, and 0.48. Rest of the items can be selected for the final version. However, the three items should not be rejected outright and other qualities of these items should be taken in to account including their face validity and other useful contribution. In the next step the initial factors were extracted. The following table shows that nine factors were extracted which account for 64.58% of total variation. According to the opinions of the experts, 60 to 70% of total variance explained by the extracted factors should be considered as adequate.

Table 3: Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|-------------------------------------------------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 5 034 | 20 137 | 20 137 | 5 034 | 20 137 | 20 137 | 2 528 | 10 113 | 10 113 |
| 2 | 2 289 | 9 157 | 29 293 | 2 289 | 9 157 | 29 293 | 2 212 | 8.847 | 18 96 |
| 3 | 1 786 | 7 144 | 36 438 | 1 786 | 7 144 | 36 438 | 2 113 | 8 453 | 27 413 |
| 4 | 1 4 | 5 601 | 42 039 | 1 4 | 5.601 | 42 039 | 1 817 | 7 267 | 34 68 |
| 5 | 1.287 | 5 147 | 47 186 | 1.287 | 5.147 | 47.186 | 1 641 | 6 565 | 41 244 |
| 6 | 1 141 | 4 564 | 51 75 | 1.141 | 4 564 | 51 75 | 1 614 | 6 457 | 47.701 |
| 7 | 1 1 | 4 399 | 56 149 | 1 1 | 4 399 | 56 149 | 1 551 | 6 203 | 53 904 |
| 8 | 1 076 | 4 306 | 60 455 | 1 076 | 4 306 | 60 455 | 1 502 | 6 009 | 59 913 |
| 9 | 1 03 | 4 121 | 64 576 | 1 03 | 4 121 | 64 576 | 1 166 | 4 662 | 64 576 |
| 10 | 0 911 | 3 643 | 68 219 | | | | | | |
| 11 | 0 862 | 3 447 | 71 666 | | | | | | |
| 12 | 0 803 | 3 21 | 74 877 | | | | | | |
| 13 | 0 798 | 3.191 | 78.068 | | | | | | |
| 14 | 0 674 | 2.695 | 80 762 | | | | | | |
| 15 | 0 653 | 2.612 | 83 374 | | | | | | |
| 16 | 0 625 | 2 5 | 85 874 | | | | | | |
| 17 | 0 619 | 2 478 | 88 352 | | | | | | |
| 18 | 0 607 | 2 429 | 90 781 | | | | | | |
| 19 | 0 598 | 2 391 | 93 172 | | | | | | |
| 20 | 0 512 | 2 047 | 95 219 | | | | | | |
| 21 | 0.437 | 1 748 | 96.967 | | | | | | |
| 22 | 0 416 | 1.664 | 98 631 | | | | | | |
| 23 | 0 342 | 1.369 | 100 | | | | | | |
| 24 | 1 31 | 5 25 | 100 | | | | | | |
| 25 | -1.75 | -6 99 | 100 | | | | | | |
| Extraction Method Principal Component Analysis. | | | | | | | | | |

There is no simple way to determine the number of factors to be accepted despite the mathematical extraction. It is mainly based on the theory related to the construct studied. In this case a large number of components of environment related behaviour have been

discussed earlier. The researchers started with four factors namely, personal changes, civic action, collective action and persuading others.

The number of factors extracted was also graphically explained by the following scree plot.

Scree Plot

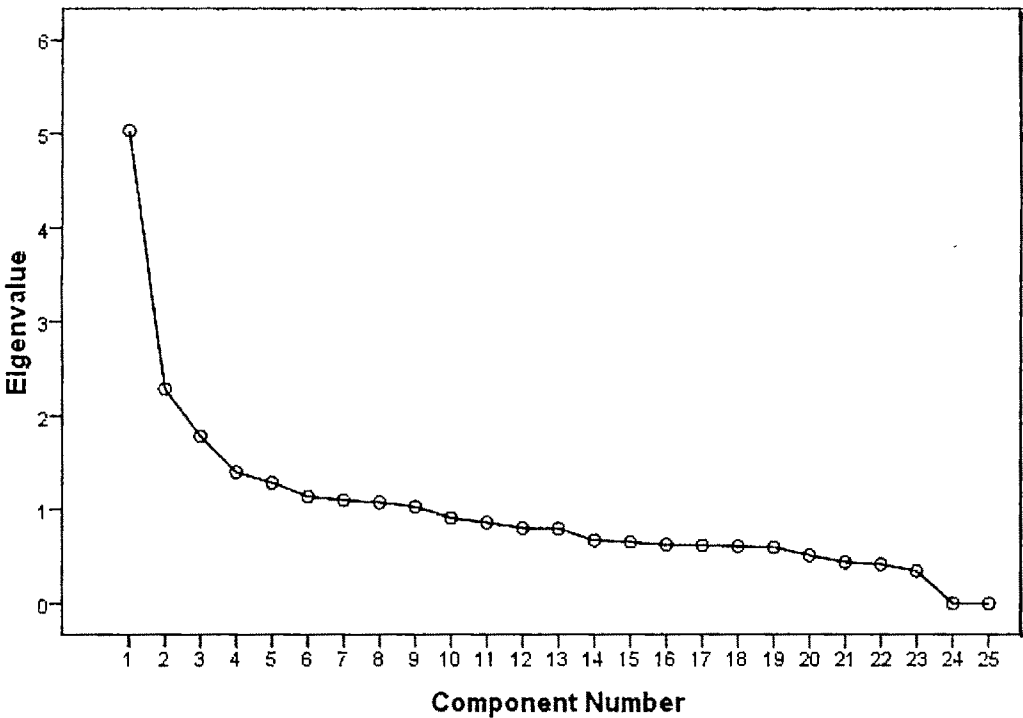


Fig: Showing the line graph of Eigen values on Y axis and component numbers on X axis.

The above line graph of the eigen values of the factors plotted and the graph shows sharp drop after the four factor, though up to ninth factor eigen value is over one. Here again arbitrary use of judgment has to be applied to explain the underlying factors.

Instead of presenting component matrix, the rotated component matrix is given below, as the interpretation can be optimized when the rotated components are studied.

Table No.-4: Rotated Component Matrix

| | Component | | | | | | | | |
|-----------------------------------------------------|-----------|--------|--------|-------|--------|-------|--------|--------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | 0.918 | 0.206 | | | | | 0.144 | | |
| 2 | 0.918 | 0.206 | | | | | 0.144 | | |
| 3 | 0.587 | | | 0.196 | 0.385 | 0.159 | -0.124 | -0.107 | |
| 4 | 0.481 | | | | 0.303 | 0.175 | -0.11 | 0.292 | 0.114 |
| 5 | 0.117 | 0.746 | | | 0.177 | 0.102 | | | 0.175 |
| 6 | | 0.69 | | 0.111 | | | 0.153 | 0.141 | |
| 7 | 0.184 | 0.677 | | 0.151 | | | -0.129 | 0.193 | |
| 8 | | 0.401 | 0.139 | 0.246 | -0.103 | 0.261 | 0.214 | | -0.278 |
| 9 | | 0.339 | -0.131 | 0.192 | 0.145 | 0.333 | 0.11 | 0.117 | -0.218 |
| 10 | | | 0.98 | | | | | | |
| 11 | | | 0.98 | | | | | | |
| 12 | 0.192 | | | 0.715 | -0.203 | 0.127 | | 0.274 | |
| 13 | | 0.159 | | 0.699 | 0.227 | | 0.196 | -0.136 | |
| 14 | | 0.131 | 0.13 | 0.567 | 0.228 | 0.269 | -0.105 | 0.203 | 0.124 |
| 15 | | 0.13 | | 0.15 | 0.686 | | | | 0.167 |
| 16 | 0.232 | 0.102 | | | 0.615 | 0.206 | 0.209 | | -0.204 |
| 17 | 0.133 | -0.151 | 0.147 | | -0.135 | 0.713 | 0.18 | | 0.153 |
| 18 | | 0.29 | | | 0.171 | 0.655 | | 0.116 | |
| 19 | | 0.239 | | | 0.399 | 0.455 | -0.167 | 0.367 | |
| 20 | | | 0.114 | | | | 0.797 | | |
| 21 | | 0.233 | | 0.298 | | 0.181 | 0.518 | 0.115 | 0.179 |
| 22 | | 0.148 | 0.113 | 0.163 | | | | 0.782 | 0.209 |
| 23 | 0.234 | 0.129 | | | 0.114 | 0.111 | 0.372 | 0.599 | -0.199 |
| 24 | 0.146 | 0.147 | | | | 0.17 | | 0.103 | 0.759 |
| 25 | | | -0.199 | 0.381 | 0.317 | | 0.395 | | 0.417 |
| Extraction Method: Principal Component Analysis. | | | | | | | | | |
| Rotation Method: Varimax with Kaiser Normalization. | | | | | | | | | |
| a. Rotation converged in 11 iterations. | | | | | | | | | |

The nine factors are extracted on the basis of the Kaiser's criteria but to explain the concept of environment related behaviour judgment may be used arbitrarily.

The reliability of the scale was also calculated by Cronbach alpha and the value was found to be high 0.818. The item- total correlations of most of the items were adequate ranging from .15 to .52 and there was no negative correlation. Also the alpha value did not change much if any item was deleted.

Discussion, conclusion and suggestion

The researchers studied various environment related behaviour scales and constructed the scale and included items from the four following factors as the theoretical basis. These are

- Civic responsibility
- Personal life style change
- Individual civic action
- Cooperative civic action.

The rotated factor components analysis, however, revealed nine factors.

The first factor which included items numbers 2, 7, 15 and 17 may be termed as personal life style change.

Item 2- buying crackers below 65 decibel sound

Item 7- protest when animals like monkey and bears are forced to show tricks on the street.

Item 15- request the shopkeeper not to give goods in polypack.

Item 17- refuse to buy foods having artificial colour or chemical.

The second factor including the five items namely 4, 1, 3, 10 and 6 may be named as individual civic action as they reflect a person's concern for environment and necessary civic actions required for its safeguard.

Item 4- I complain to authority when my area is polluted

Item 1- I protest when somebody cuts tree in my area.

Item 3- Buying things conforming environment protection norm.

Item 6- Protesting when friends damage trees.

Item 10- Do not disturb neighbors by playing music system loudly.

In factor 3, the two items 18 and 24 are about attitudes regarding chemical used in 'abir' (colour used in religious festival) and public transport and not directly related to action. These two items need to be deleted from final scale.

Again in factor 4 items 5, 13, and 16 which are about individual personal action may be included in the factor 1

Item 5- related use of plastic below a particular micron.

Item 13- turning off the dripping tap. Item 16 willingness to take part in reducing sound pollution programmes.

Similarly, items 23 and 11(factor 5) are also about individual personal action related to reuse of old envelop and other objects. So, factor 5 too may be appended to factor 1.

Factor 6 includes items 14, 19 and 21.

The items 19 and 21 are about cooperative civic actions where the subject shows interest in debate and discussion with others regarding environmental issues.

However, the items included in factor 7, 8 and 9 are all related to individual actions and may come under the factor one.

Factor analysis is mathematical analysis of the responses and subject to individual interpretation. Different researchers may explain the variables in their own ways and come up with their own version of the construct.

So it has been suggested that same variables in this case components of environment related behaviour should be studied in different contexts with different sample groups to understand the issue. This study is all the more useful as it has been done on a special group of sample namely students with visual impairment whose perception is likely to differ from student with normally vision groups. This brings into focus the importance of social context-vis- a- vis environment related behaviour. The same scale should be applied on student with normally vision of same age group and again subjected to factor analysis. This will give a better understanding of the components within the general concept of environment related behaviour. Besides, confirmatory factor analysis may also be done for further understanding of the construct.

References

- AJZEN, I., & FISHBEIN, M. 1980. *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice Hall.
- AXELROD, L., & LEHMAN, D.R. 1993. Responding to Environmental Concerns: What factors guide individual actions? *Journal of Environmental Psychology*, 13, 149-159.
- BAMBERG, S., & MOSER, G. 2007. Twenty years after Hines, Hungerford and Tomera: A new meta-analysis of psychosocial determinants of environmental behaviour. *Journal of Environmental Psychology*, 27(1), 14-25.
- BUSCH-ROSSANGEL, N.A., & WEIGEL, D.J. 1984. Implication for college educators of students' attitudes towards energy. *Journal of College Students Personnel*, 25, 255-266.
- CULEN, G.R., & VOLK, T.L. 2000. Effects of an extended case study on environmental behaviour and associated variables in the seventh and eighth grade students. *Journal of Environmental Education*, 31 (2), 9-15.
- FIELD, A. 2000. *Discovering statistics using SPSS for Windows*. New Delhi: Sage Publications India Pvt. Ltd.
- FRANSSON, N., & GARLING, T. 1999. Environmental concern: Conceptual definition, measurement methods and research findings. *Journal of Environmental Psychology*, 19(4), 368-382.
- GAMBA, R. J., & OSKAMP, S. 1994. Factors influencing community residents' participation in commingled curbside recycling programs. *Environment & Behaviour*, 26, 587-612.
- HUANG, H. P., & YORE, L. 2003. A comparative study of Canadian and Taiwanese grade 5 children's environmental behaviour, attitude, concerns, emotional dispositions and knowledge. *International Journal of Science and Mathematics Education*, 1: 419-448.
- HUNGERFORD, H. R., & VOLK, T. 1990. Changing Learner Behaviour through Environmental Education. *Journal of Environmental Education*, 21(3), 8-21.
- JENSEN, B.B. 2002. Knowledge, Action and Pro-environmental Behaviour. *Environmental Education Research*, 8(3).
- KAISER, F., WOLFING, F., & FUHRER, U. 1996. Paper presented at the 104th Annual Meeting of American Psychological Association. Toronto, Canada.
- KAISER, F. G. 1998. A general measure of ecological behaviour. *Journal of Applied Social Psychology*, 28, 395-422.
- KAISER, F. G., & BIEL, A. 2000. Assessing general ecological behaviour: A cross-cultural comparison between Switzerland and Sweden. *European Journal of Psychological Assessment*, 16, 44-52.

- KAISER, F. G., FRICK, J., & STOLL-KLEEMANN, S. 2001. Zur Angemessenheit selbstberichteten Verhaltens: Eine Validitätsuntersuchung der Skala Allgemeinen Ökologischen Verhaltens [Accuracy of self-reports: Validating the general ecological behavior scale]. *Diagnostica*, 47, 88–95.
- KAISER, F. G., & KELLER, C. 2001. Disclosing situational constraints to ecological behaviour: a confirmatory application of the mixed Rasch model. *European Journal of Psychological Assessment*, 17, 212–221.
- KOLLMUSS, A., & AGYEMAN, J. 2002. Mind the Gap: why do people act environmentally and what are the barriers to pro-environmental behaviour? *Environmental Education Research*, 8(3), 239–260.
- SIA. A. HUNGERFORD, H., & TOMERA, A., 1985. Selected Predictors of Responsible Environmental Behaviour: An Analysis. *Journal of Environmental Education*, 17(2), 31–40.
- SMYTH, J.C. 1995. Environment and education: a view of a changing scene. *Environmental Education Research*, 1(1), 3–20.
- THOGERSEN, J., & OLANDER, F. 2003. Spill over of environment friendly consumer behaviour. *Journal of Environmental Psychology*, 23(3), 225–236.
- UNESCO (1977). First Intergovernmental Conference on Environmental Education Final Report, Tbilisi, USSR. Paris: UNESCO/UNEP.
- WALS, A. E. J., & JICKLING, B. 2002. “Sustainability” in higher education from doublethink and newspeak to critical thinking and meaningful learning. *Higher Education Policy*, 15, 121–131.
- WRIGHT, B., & AND MASTERS, G.N. 1982. *Rating scale analysis: rasch measurement*. Chicago: MESA.
- VAN DER HOEVEN, N., WALS, A. E. J., & BLANKEN, H. 2007. De akoestiek van sociaal leren: handreikingen voor de inrichting van leerprocessen die bijdragen aan een duurzamere wereld. [The acoustics of social learning: Stepping stones for designing learning that contributes to a more sustainable world]. Utrecht: Senter Novem.

Inclusion: Peer –Group Support and Visually Challenged students

S.B.Bhattacharya¹, Upasana Ray² and Surjoday Bhattacharya³

Abstract: *The success and failure of inclusion depends on a big way on the acceptance of disabled children in the normal school by their peer groups. The support of peer group is vital in enhancing the self esteem and personality of the individual. It also helps in retaining the drop outs as peer support in curricular activities helps the visually needed students catch up in areas they lag behind. Findings from studies of Cairns and Cairns (1994) indicate that peer group may have significant contributions to individuals, social and psychological adjustments. It also has a positive effect on academic maturation, achievement, school drop outs, anti social behaviours and life adjustments. This study, examined the perception of visually need students on peer group (non-visually challenged) support available to them in the curricular, co curricular and social front in inclusive settings. Significant difference between the perceptions of both the sex was studied. An opinionnaire developed by the investigators was used in a sample of 60 visually challenged boys and girls in the age group of 12 to 19 years. Percentage and chi square were computed on the three dimensions as well as sex difference was considered as a variable. Findings indicate an overall positive peer group support available to these children. The results are encouraging and support the philosophy behind inclusion.*

Key Words: Visually Challenged, Peer –Group Support

Introduction

The international move towards inclusion of special needs children into mainstreaming classrooms rather than educating them in an isolated environment has been a main concern raising, issues and interest for educators, policy-makers and researchers in recent times (Chalmers, 1998). O'Brien argued that children with special education needs have the right to be educated in a full inclusive classroom, and should not be segregated for any reason. In addition there is difference between those students to be accepted only and included as physical individuals, the reality should be accepted physically and morally without isolated them from their peers in regular classroom and preparing appropriate education which meets their needs (O'Brien, 2001). Integrated education has been widespread since 1974 after the centrally sponsored IEDC scheme. Inclusive schooling got momentum recently after Salamanca declaration (1994) where India was one of the signatory bodies. The latest National call of Sarva Shiksha Abhiyan (SSA) includes disability component for all its delivery. Inclusion is a wise step as it has been deeply felt in National Curriculum Framework for School Education (NCFSE-2000). Segregation is neither good for the children neither with disability nor without disability.

Acceptance is the first step towards friendship. Friendship is one of the strongest bonds that a person forms in his life apart from his blood relations. As child grows and walks into his

¹ Professor, Faculty of Education, BHU

² Research Scholar, Faculty of Education, BHU

³ Research Scholar, Faculty of Education, BHU

adolescent years a great shift in his social sphere takes place. Friends occupy the forefront and the family takes a back stand. During middle childhood children interact increasingly often with peers until, by mid-adolescence starts spending more time with them than any other social partners (Czikszentmihalyi & Larson, 1984). From middle childhood to adolescence, the peer group represents a salient social context that has persuasive influence on children's attitudes and behaviors (Brown 1990, Kandel 1978). Formed spontaneously out of common interests, peer group is network of interacting individuals who spend time together and share activities. (Cairns & Cairns 1994). By the end of middle childhood peer groups are interacting forms through which children and adolescents learn much about the functioning of social organization. The peer group provides the opportunity to come out of the proverbial mother's shawl to find one's own identity. In other words, peer groups provide the way to maturation by imparting details of adult life many times considered as taboo within the family system. Group norms foster a sense of belongingness. Group social structure leads to a division of responsibility and practice in leader-follower roles later on. Adolescent peer groups are organized around cliques, i.e., small groups of good friends and crowds or large loosely organized group based on a setting in which adolescents learn social skills and try out new rules and roles.

Interacting outside the family is not an easy task for the visually challenged individual. Blindness poses a very big hurdle in forming relationship with others. Lack of vision, causes withdrawal of the person and they hesitate to initiate efforts to make friends. Further, it is difficult for them to participate in group activities as neither can they follow non verbal actions nor can they replicate them. Thus, there is always a lurking fear of being ridiculed within the visually challenged individual. The process of socialization is facilitated when the individual is accepted. Acceptance comes from compatibility and correspondence with peer groups which only inclusive settings can provide to these individuals otherwise they shall remain confined into the protected shell of the family or in a segregated setting. In studies comparing the academic performance of mainstreamed and segregated students with mild handicap conditions, the mean academic performance of the integrated group was in the 80th percentile while the segregated student score was in the 50th percentile (Weiner R, 1985). The overall mixing of every individual is the seed of a healthy and compatible society. Downing (1997) concluded that for any student one of the most important outcomes of education was that he or she would have friends. Thus the inclusive setting puts a disabled

child in the company of other categories of the disabled and the normal one. To survive in this setting is a little difficult. The inclusive schools are often unable to provide resource rooms or special tutors to cater to the learning needs of special need children. Hence, peer group always play an important role in helping them with their educational needs as well as ensuring that they continue and do not drop out due to academic failure and social maladjustment. Various studies have shown that peer acceptance is a powerful predictor of current as well as later psychological adjustments. Peer rejection during middle childhood is strongly associated with poor school performance, dropping out, antisocial behavior and delinquency in adolescence and criminality in the young adulthood (Morison & Masten 1991). Finding from studies conducted in the west have indicated that peer groups may have significant contribution to individual social and psychological adjustment. It also has positive effect on academic maturation, achievement school drop out, antisocial behaviour and life adjustment (Cairns & Cairns 1994). Banerji and Dailey (1995) in their study about the effectiveness of an inclusive outcome on students with learning disabilities, found that students with specific learning disabilities demonstrated academic progress at pace comparable to that of students did not possess such disabilities, in addition their teachers and parents indicated progress in self-esteem and motivation. Vaughn, Elbaum and Schumm (1996) in their study about social function the students with learning disabilities in an inclusive classroom (peer acceptance, loneliness, self-concept and social alienation) found that such students demonstrated lower academic self-concept. Klingner et al. (1998) conducted study about which program students prefer (pull-out or inclusion). In the study 32 students were interviewed individually by the researcher using key questions assessing their perceptions, the results indicated that more children prefer the pull-out model, but many children confident that the inclusive program was more useful in terms of the outcomes and social skill development

In this study assuming that peer-group support will also indirectly bring the benefit of cooperative learning for the visual need student, the focus was placed on the peer-group support benefit for the visual need student under the inclusive setting. Thus, an understanding of their support received by visually need students and the problems faced by them can take us a step forward towards inclusion in an effective manner.

Purpose of the Study

The purpose of the study was to examine the support, the peers (normal students) provide, to the visually challenged students in the inclusive setting in curricular, co-curricular and social activities. In this investigation the following research questions were formulated:

1. What is the percentage of support the visually challenged students perceived from peer group in inclusive schools in curricular, co-curricular and social activities?
2. What is the difference in the percentage of support the visually challenged girls and boys perceive from peer groups in inclusive schools in curricular, co-curricular and social activities?
3. Is there any significant sex difference in the perception of visually challenged students on peer group support in curricular, co-curricular and social activities?

Methodology

Sample consisted of visually challenged students studying in inclusive setting schools of the cities of Varanasi, Allahabad and Lucknow. A total of 30 boys and 30 girls comprised the sample of the study selected through incidental and purposive sampling. Diversity of the subjects existed in terms of age and the level of academic attainment because it was not possible to control the age and yet have an adequate sample of visually challenged students in inclusive setting.

Instrumentation

An opinionnaire was used to gather data from the subjects of the study. The opinionnaire consisted of two components; information of personal data and the opinionnaire itself. The opinionnaire was developed by the investigators in the absence of any other relevant tool available for the collection of data.

Data analysis

To answer the proposed research questions of the study, the opinion of the students were collected and percentage of students' opinion was calculated for each of the three areas.

Result

Table 1(a): Perception of peer group support of visually challenged students in curricular activities

| Item No | 1 | 2 | 3 | 4 | 5 | 6 | 11 |
|------------|----|------|------|----|------|----|------|
| Curricular | 85 | 73.3 | 93.3 | 75 | 98.3 | 55 | 86.6 |

N= 60

Table: 1(a) reveals that in the field of curricular activities about 73% visually challenged students stated that peer groups helped them in understanding and grasping the learning material when teacher used black board or multi media. About 93% said that their peer group repeated the subject matter to them, whenever they were unable to follow it. About 85% visually need responded that their peer groups helped them by reading the book orally to them. In case when visually need students required any extra information regarding the subject matter, 75 % stated that they were getting help from their respective peer groups. Approx 98% visually need ascertained that if they were unable to understand any joke or fun oriented incident in their classroom, their peer groups narrated the incident to them and they were equally capable of sharing and enjoying. About 55 % visually need stated that their peer groups helped them to express their ideas and feelings. About 87% visually need accepted that peers groups helped them in the library.

Table: 1(b): Perception of peer group support of visually challenged students in co curricular activities

| Item No | 7 | 8 | 9 | 10 | 12 |
|------------------------------|------|----|----|------|----|
| Co-Curricula (percentage) | 91.6 | 97 | 72 | 83.3 | 92 |

N= 60

In the area of co curricular activities it is very encouraging that about 92% visually challenged students opined that their peer groups encouraged them to participate in co-curricular activities. About 97% said that their peer groups organised such types of play in which they could equally participate and enjoy. About 72% visually challenged students accepted that their peer groups discussed with them the issues of current events, news and events that used to occur recently in the country and abroad and the bright aspect is that approximately 83 % visually challenged accepted that their peer groups gave importance to their views regarding those issues. About 92% visually challenged students stated that their peer groups read out all the comics, newspapers and magazines in front of them so that all of them can equally share pleasure and happiness.

Regarding social activities about 67% percent students responded that their peers always invite them to their houses. About 92% visually impaired students accepted that their peer groups share their lunch with them. About 83% visually challenged students said that their

peer groups spend time with them and 93% visually challenged students accepted that their peer groups include them in their pleasure and funs. Hundred percent visually challenged students agreed that their peer groups were always there to help them in moving from one place to another. This is very encouraging result. Only 1.3% percent said that their peer groups quarrelled with them. 2% admitted that they some time make fun of them. About 92% visually impaired children said that their non disabled friend liked to sit beside them in the classroom.

Table: 1(c) :Perception of peer group support of visually challenged students in social activities

| Item No | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---------------------|----|----|------|------|-----|-----|----|------|
| Social (percentage) | 67 | 92 | 83.3 | 93.3 | 100 | 1.3 | 2 | 91.6 |

N= 60

As per the second objective, peer support was separately studied with gender as the basis. The percentage of the students of both groups on peer group supports in curricular activities was studied as: Separately we found that the boys and girls readily read aloud to their visually need friends (about 83 & 87%). In case of repeating during presentations in the classroom, it was 70% and 77% of the visually challenged boys and girls had similar positive opinions. The slight fall in percentage may be due to the fact that the other students were busy catching up and understanding what the teacher has said. In the case of reference work, we found that girls and boys both helped their needed friends. Those who felt that they did not receive help, i.e. 8 boys and 7 girls may in company of competitive attitude do not like sharing with others the extra something that may help them score better. It is very encouraging to see humorous incidents were amply retold to share the laughter. About 96% boys and 100% girls agreed on it. In expressing ideas we found 50% boys and 55% girls feeling that they were helped out. The rest mayn't be very extrovert in expressing their own ideas. Thus, they find it difficult to help others do. They are also helped whole heartedly in library work i.e. 83% boys and 86.6% girls felt they received all the help possible. Thus in curricular activities we find boys and girls having similar opinions and there exists no significant difference between the opinions of both. The chi square value which is equal to .98, which is less than the table value replicating the same.

Table 2(a): Sex wise response on curricular activities (in percentage)

| Item No | Curricular | |
|---------|------------|-------|
| | Boys | Girls |
| 1 | 83.3 | 86.6 |
| 2 | 70 | 76.6 |
| 3 | 96.6 | 90 |
| 4 | 73.3 | 76.6 |
| 5 | 96.6 | 100 |
| 6 | 50 | 55 |
| 11 | 83.3 | 86.6 |

In co-curricular activities encouragement is given broadly to the needed ones by peer group for participation. Rules of games are also changed to accommodate them. Stories were read out, current affairs were discussed and due importance were given to the views by both sex. This generates a warm sense of belongingness among these children. There seems to be little difference in the opinion of visually challenged boys and girls with regard to peer support in co-curricular activities. The same is portrayed in the chi square results (0.50). Thus there exists no significant difference in opinion between the two sexes in the co curricular front.

Table 2(b) : Sex wise response on co-curricular activities (in percentage)

| Item No | CoCurricular | |
|---------|--------------|-------|
| | Boys | Girls |
| 7 | 96.6 | 86.6 |
| 8 | 96.6 | 96.6 |
| 9 | 73.3 | 70 |
| 10 | 90 | 86.6 |
| 12 | 90 | 93.3 |

With regards to social activities the peer group support was seen as:

Table 2 (c): Sex wise response on social activities (in percentage)

| Item No | Social | |
|---------|--------|-------|
| | Boys | Girls |
| 13 | 50 | 83.3 |
| 14 | 83.3 | 100 |
| 15 | 90 | 83.3 |
| 16 | 93.3 | 93.3 |
| 17 | 100 | 100 |
| 18 | 10 | 16.6 |
| 19 | 16.6 | 23.3 |
| 20 | 90 | 93.3 |

In the social sphere it was found that about 83% boys and 100% girls agreed that their friends shared their lunch with them. About 90% boys and 83 % girls felt that their friends liked spending their time with them. Approximately 94% of the children agreed that jokes and funny event were shared with them and that they were always helped in movement round the campus. There were a few quarrels reportedly but that is undoubtedly a part of growing up. A difference in boys and girls were regarding their peers inviting them to their home. Only 50% boys agreed where as 83.3% of the girls agreed that they received invitation. This may be due to the facts that during the teens the boys tend to hang out of the house where as girls are more homely. Results yielded a significant difference of opinion among the sex in peer group support in the social front with chi square result being 3.94 which is above the table value. This difference may be attributed to the difference in boys and girls opinion regarding invitation to visit the home of the peer.

In conclusion, these results are very encouraging and support the philosophy behind inclusion. Inclusion can undoubtedly be successful at least with the children with visual impairment. Undoubtedly a little more technological accessibility, movement training and facilities of readers in library will go a long way to increase their academic achievement. But the bond they are forming with their non disabled peers will help them to settle down comfortably in their working places and in the society.

Reference

- BANERJI, M., & DAILEY, R. 1995 A Study of the Effective of an Inclusion Model on Students with Specific Learning Disabilities. *Journal of Learning Disabilities*, 28(8), 511- 522
- BROWN, B. 1990. Peer groups In S. Feldman & G. Elliott (Ed.s) *At the Threshold: The developing adolescent*. Cambridge: Cambridge University press
- CAIRNS, R.B. & CAIRNS, B.D. 1994 Growth and Aggression: Childhood to early adolescence. *Developmental Psychology*, 25, 320-330.
- CHALMERS, R. 1998. Selective Adaptation: How Teachers Manage Their Work in 'Inclusive' Classrooms. Unpublished Doctor of Philosophy, University of Western Australia, Perth.
- CZIKSZENTMIHALYI M. & LARSON R. 1984 Being Adolescent. *Conflict and growth in the teenage years*. New York : Basic Books.
- DOWNING, T. 1997. Learning by cooperative publishing on the world wide web. *Active Learning*, 7, 14 – 16
- KANDEL, D. B. 1978. Homophily, selection and socialization in adolescent friendships *The American Journal of Sociology* 84, 427-36.
- KLINGNER, J., VAUGHN, S., SCHUMM, J. S., COHEN, P., & FORGAN, J. 1998. Inclusion or Pull-Out: Which Do Students Prefer? *Journal of Learning Disabilities*, 31(2), 148-158.
- MORISON, R. & MASTEN, A.S. 1991 Peer reputation in middle childhood as a predictor of adaptation in adolescence: A seven year follow up. *Child Development* , 62, 991-1007.
- NCERT, National Curriculum Framework for School Education 2000. New Delhi.
- O'BRIEN, T. (Ed.) 2001. Enabling Inclusion: Blue Skies.. Dark Clouds? London: The Stationery Office.
- VAUGHN, S., ELBAUM, B., & SCHUMM, J. S. 1996. The Effective of Inclusive on the Social Functioning of Students with Learning Disabilities. *Journal of Learning Disabilities*, 29(6), 598-608.
- WEINER, R. 1985. Impact of the Schools. New Delhi: Capital Publishers.

Inclusive Growth for Sustainable Development: Role of Higher Education

Dulal Mukhopadhyaya¹

Abstract: *From the second half of the twentieth century, the world is heading for a rapid change, a change from industrial society to an information rich society, from state controlled education to commercialisation of education. And due to those enormous changes, there is tension among the different inters and intra segments of the societies. In the developing countries these tensions are alarmingly rising due to disparities and inequalities in education, economy, literacy and many more other factors. Ultimately all the after effects are borne by the Higher education. To overcome this, Higher Education should have Sustainable Development with Inclusive Growth as much as possible. This paper tried to explain the growth of Higher education in India in different Planning Periods, especially in the 11th Plan and tried to make a comparison among different countries of the world and also suggested measures to overcome different problems in Indian Higher Education.*

Key Words: Commercialization of Education; Sustainable Development; Inclusive Growth

Introduction

“The most important and urgent reform needed in education is to transform it, to endeavor to relate it to the life, needs and aspirations of the people and thereby make it the powerful instrument of social, economic and cultural transformation necessary for the realization of the national goals. For this purpose, education should be developed so as to increase productivity, achieve social and national integration, accelerate the process of modernisation and cultivate social, moral and spiritual values.” - (University Education Commission, 1948-49)

Education is an important human right and a fundamental right also guaranteed by the Constitution of India. According to the Universal Declaration of Human Rights (1948), right to education is guaranteed by Article 26. The Article 26 reads:

- (1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory.
- (2) Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.
- (3) Education shall be directed to the full development of the human personality and the strengthening of respect of human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among the nations, racial or religious groups and shall further the activities of the United Nations for the maintenance of peace.
- (4) Parents have a prior right to choose the right kind of education that shall be given to their children.

¹ Professor, Department of Education, University of Kalyani

Education is an important right to enjoy the benefits given by the Constitution, because it provides experience and knowledge required to live a sustainable and fulfilling life and to participate fully in local and global communities (Learning Channel.org 2002). Unfortunately, it is a right that is often denied to people, who are mostly reliant on external parties to provide them with educational facilities and resources (Commonwealth of Learning 2002: IYP submission).

In 2000 the World Education Forum meet in Dakar, Senegal. The meeting identified six goals of EFA, which is known as the Dakar Frame Work for Action :

- (1) Expanding and improving comprehensive childhood care and education for all children.
- (2) All children, both boys and girls, would have been ensured and complete good quality of compulsory and free primary education.
- (3) Learning needs of all young people and adults are to be met through equitable access to appropriate learning and life skills programmes.
- (4) By 2015, 50% improvement in adult literacy levels is to be done (for both sexes) and access to basic and continuing education for all adults are to be ensured.
- (5) Gender disparities are to be eliminated in primary and secondary education by 2005 and gender equality is to be achieved by 2015.
- (6) Improvement of quality and excellence in education are to be improved so that recognizable and measurable learning outcomes achieved by all, especially in literacy, in numeracy and essential life skills.

Challenges of Higher Education

From the second half of the twentieth century the world is heading for a rapid change, a change from industrial society to an information society and from state controlled education to commercialization of education. With the rising tempo of information revolution, inter and intra state digital divide among the populace is clearly perceptible. It is prominent in the developing world like ours and this is creating tension among the population. The UNESCO report (1996) has identified the following tensions:

- The tension between the global and the local,
- The tension between the universal and the individual
- The tension between tradition and modernity
- The tension between long term and short term considerations

- The tension between the need for competition and concern for equality of Opportunity
- The tension between the extraordinary expansion of knowledge and human beings capacity to assimilate it and
- The tension between the spiritual and material.

In the developing countries these tensions are alarmingly rising due to disparities and inequalities in education, economy, illiteracy, and many other factors. Tensions are on the rise due to unequal quality of education also. The UNESCO report expressed:

“Education has to face up to this problem now more than ever as a world society struggles painfully to be born: education is at the heart of both personal and community development; its mission is to enable each of us, without exception, to develop all our talents to the full and to realize our creative potential, including responsibility for our own lives and achievement of our personal aims.” [Learning the treasure within, 1998]

Outlining four dynamics that are transforming higher education (the World Conference on Higher Education, Paris, July, 2009) Mr. Koichiro Matsuura, UNESCO’s Director General, UNESCO, said :

“The field of higher education is going through no less than a revolution

- The first is accelerating demand, with an additional 51 million new students enrolled in tertiary education worldwide since 2000.
- The second is the diversification of providers, with private higher education now accounting for more than 30 per cent of enrolments worldwide.
- The third is the impact of information and communication technologies on all aspects of learning, from delivering courses and knowledge sharing to collaboration on research projects and facilitating access to educational resources free of charge.
- The fourth is globalization, which is reflected in the growing number of students studying outside of their home countries, in universities establishing branch campuses and off-shore academic programmes, and partnering with universities in other countries to set up degree programmes.

Turning to the implications of these trends, Mr. Matsuura put the spotlight on three key challenges:

- First, the equity challenge: “Despite the explosive growth in student numbers, mass higher education is far from being a reality. Tertiary enrolments remain relatively

low across the developing world. Even in countries where enrolment is high, inequalities persist” and hence urging governments to introduce special measures to help disadvantaged and marginalized groups participate in higher education.

- The second challenge was how to assure quality in today’s global and diversified context. “Quality assurance has as much to do with protecting students from fraudulent providers as with recognizing qualifications across borders and ensuring that students successfully graduate.” The stress should be given on the importance of attracting and retaining qualified higher education teaching personnel, and providing them with adequate working conditions.
- Finally, the importance of institutional cooperation and networking. “Higher education cannot prosper without the sharing of knowledge.”

Matsuura said, “We share a mutual interest in developing vibrant inclusive higher education systems. Such systems have the potential to promote peace, international understanding and cooperation. This Conference offers us a landmark opportunity to put into action our collective responsibility and ambition to make higher education in all regions a driver of development and international understanding in this second decade of the 21st century.”

Before going to elaborate the main issues, let us try to have an idea of the terms ‘Inclusive Growth’ and ‘Sustainable Development, in education.

What is Education for Sustainable Development?

In 1987, the World Commission on Environment and Development, presided by Gro Harlem Brundtland, used the expression “sustainable development” for the first time in its report, “Our Common Future”. The concept has evolved constantly ever since. At first emphasizing environment only in development policies, the idea has encompassed socioeconomic domains since the Johannesburg Summit (2002). It now incorporates other areas previously neglected by development, such as education or culture, the latter being recognized as a full-fledged source of development by the Universal Declaration of Cultural Diversity adopted by UNESCO in 2001 (United Nations Educational, Scientific and Cultural Organization, 2005).

In its report UNESCO and Sustainable Development (2005), the following crucial areas were adopted to define ‘Sustainable Development’ in education:

- “education that allows learners to acquire the skills, capacities, values and knowledge required to ensure sustainable development;
- education dispensed at all levels and in all social contexts (family, school, workplace, community);

- education that fosters responsible citizens and promotes democracy by allowing individuals and communities to enjoy their rights and fulfill their responsibilities;
- education based on the principle of life-long learning;
- education that fosters the individual's balanced development."

The Report said: To develop sustainable skills, inspired by creative and critical thinking, in order to encourage the solving and managing of problems that stand in the way of sustainable development, initiatives launched during the Decade will use formal, non-formal and informal modes of teaching and the power of information and communication technologies (ICTs) to reach all audiences, including the poor, women and marginalized people.

The above report further add: Simply increasing basic literacy and numeracy will not suffice to advance significantly sustainable development. Efforts must focus on the content, methods and quality of basic education; on sharing knowledge, skills and values; on adapting education to different cultural contexts and the needs of learners; on the learning environment; and on cultural diversity, commitment to peace and against discrimination.

What is Inclusive Growth?

Inclusive growth has become a buzz word in Indian society. The dictionary meaning of inclusive is, 'including of much or all.' Recently, unnecessary wars, internal rifts and acts of terrorism have crippled the Indian economic backbone. Inclusive growth by its very definition implies an equitable allocation of resources with benefits accruing to every section of society. Society by its very definition implies a coming together of a variety of peoples. For growth at any level to be sustainable, it needs to take into account these pluralities.

According to some expert: Inclusive growth by its very definition implies an equitable allocation of resources with benefits accruing to every section of society.... But the allocation of resources must be focused on the indented short and long terms benefits and economic linkages at large and not just equitable mathematically on some regional and population criteria (The Concept of Inclusive Growth, Singh Madhav, 2008).

In economic terms rapid and sustained poverty reduction requires inclusive growth that allows people to contribute to and benefit from economic growth. Rapid pace of growth is unquestionably necessary for substantial poverty reduction, but for this growth to be sustainable in the long run, it should be *broad-based* across sectors, and *inclusive* of the large part of the country's labor force. This definition of inclusive growth implies a direct link between the macro and micro determinants of growth. The micro dimension captures the

importance of structural transformation for economic diversification and competition, including creative destruction of jobs and firms.

Inclusive growth refers *both* to the pace and pattern of growth, which is considered interlinked, and therefore in need to be addressed together. The idea that both the pace and pattern of growth are critical for achieving a high, sustainable growth record, as well as poverty reduction, is consistent with the findings in the *Growth Report: Strategies for Sustained Growth and Inclusive Development* (Commission on Growth and Development, 2008). The commission notes that inclusiveness – a concept that encompasses equity, equality of opportunity, and protection in market and employment transitions – is an essential ingredient of any successful growth strategy. Here we emphasize the idea of equality of opportunity in terms of access to markets, resources, and unbiased regulatory environment for businesses and individuals. The Commission on Growth and Development (2008) considers systematic inequality of opportunity “toxic” as it will derail the growth process through political channels or conflict. The inclusive growth approach takes a longer term perspective as the focus is on productive employment rather than on direct income redistribution, as a means of increasing incomes for excluded groups.

The inclusive growth definition is in line with the absolute definition of pro-poor growth, but not the relative definition. Under the *absolute* definition, growth is considered to be pro-poor as long as poor people benefit in absolute terms, as reflected in some agreed measure of poverty (Ravallion and Chen, 2003).

In contrast, in the *relative* definition, growth is “pro-poor” if and only if the incomes of poor people grow faster than those of the population as a whole, i.e., inequality declines. However, while absolute pro-poor growth can be the result of direct income redistribution schemes, for growth to be inclusive, productivity must be improved and new employment opportunities created.

In short, inclusive growth is about raising the pace of growth and enlarging the size of the economy, while leveling the playing field for investment and increasing productive employment opportunities. By focusing on inequality, the relative definition could lead to sub-optimal outcomes for both poor and non-poor households. For example, a society attempting to achieve pro-poor growth under the relative definition would favor an outcome characterized by average income growth of 2 percent where the income of poor households grew by 3 percent, over an outcome where average growth was 6 percent, but the incomes of poor households grew by only 4 percent. While the distributional pattern of growth favors

poor households in the first scenario, both poor and non-poor households are better off in the second scenario. *There is broad recognition that when poverty reduction is the objective, then the absolute definition of pro-poor growth is the most relevant* (DFID, 2004). Using the absolute definition, the aim is to increase the rate of growth to achieve the greatest pace of poverty reduction.

Inclusive growth focuses on ex-ante analysis of sources of, and constraints to sustained, high growth, and not only on one group – the poor. The analysis focuses on ways to raise the pace of growth by utilizing more fully parts of the labor force trapped in low-productivity activities or completely excluded from the growth process. This is in contrast to the pro-poor growth literature, which has traditionally focused on measuring the impact of growth on poverty reduction by tracking various poverty measures.

Inclusive growth entails responsible and sustainable creation as well as just distribution of both wealth and welfare. Social cohesion and human dignity lie at its core. It requires extending access to opportunities more widely; it is a key response to the rising inequalities undermining the sustainability of the global market economy, growth and development. Inclusive growth seeks to redirect and broaden the flows of globalisation in order toward its intended beneficiaries: the excluded.

It has two mutually reinforcing strategic pillars:

1. **Sustainable growth** to unleash economic opportunities for those excluded from current growth models, through creative enterprise and responsible leadership.
2. Inclusion to ensure the diffusion of opportunities, by way of investment in education, health and infrastructure, through partnership between the public and private sectors, and civil society.

Good governance – understood as a mechanism linking inclusion, decision making and accountability – is fundamental to advancing each of these pillars. This means ensuring equality of access to opportunities through (a) investments in human capital so that the main asset of most people – their labour – are productively employed and (b) providing an enabling environment for the smooth operation of state, entrepreneurial and business activities. Access to finance, education and ICT are key enablers to foster greater access to opportunities. Health, a pre-requisite to economic empowerment, is critical.

Growth of Higher Education

Despite serious handicaps of means and resources, the country has built up during the last 50 years a very large system of education.

Though riddled with explosion in the growth of population, a large illiterate population and problems of economic poverty affecting more than one-third of the people, modern India is still contribute significantly to the higher goals of world peace, human unity and universal welfare.

Prior to independence, the growth of institutions of higher education in India was very slow and diversification in areas of studies was very limited. After independence, the number of institutions has increased significantly. From 1950 to 2008, the number of universities has increased from 25 to 431, colleges from 500 to 20,677 and the teachers from 15000 to nearly 5.05 lakhs and the enrolment of students has increased from a mere 1 lakh in 1950 to over 116.13 lakh (Table 1).

There were only 20 Universities and 500 Colleges at the time of independence. There are 416 Universities at present - 251 State Universities, 24 Central Universities, 103 Deemed Universities, 5 Institutions established under State legislations and 33 Institutes of National Importance established by Central legislation. At the end of the 2008 there is a slight upward change in the above figures (Table 2). In addition, there are 20,677 Colleges including around 2,166 Women Colleges. At the beginning of the academic year 2007-08, the total number of students enrolled in the Universities and Colleges has been reported to be 116.13 lakhs—15.03 lakhs (12.94%) in University Departments and 101.10 lakhs (87.06%) in affiliated colleges.

Table 1: Institutional Growth of Higher Education

| Institutional Growth | | |
|-----------------------|--------|--------------|
| Types of Institutions | Year | |
| | 1950 | 2008 |
| Universities | 20 | 431 |
| Colleges | 500 | 20,677 |
| Teachers | 15000 | 5.05 lakhs |
| Students | 1 lakh | 116.13 lakhs |

Source: MHRD Report, 2007-08

Table 2: Types of Universities

| Type | Number (September 2008) |
|-------------------------------|-------------------------|
| Central University | 25 |
| State University | 251 |
| Deemed University | 113 |
| National Importance (State) | 5 |
| National Importance (Central) | 33 |
| Private University | 28 |
| Total | 455 |

Source: MHRD Report, 2007-08 & Thorat, 2009

The enrolment of women at the beginning of the academic year 2007-08 was 47.09 lakhs constituting 40.55% of the total of the total enrolment. Of the total enrolment of women, 12.35% were enrolled in professional courses. The enrolment of women as a percentage of total enrolment in a State is the highest in Kerala (61.98%) and the lowest in Bihar (24.55%). In terms of absolute numbers of women enrolled, Maharashtra tops the list of States with 6.59 lakhs.

The number of doctoral degrees awarded by various universities during 2005-06 (position as on 01.01.2006) was 18730. Out of the total number of doctoral degrees awarded by various universities during the year, the faculties of Arts had the highest proportion followed by the faculties of science. However, these two faculties together accounted for over 70% of the total number of doctoral degree awarded. The regular faculty strength was 0.81 lakhs (16.05%) in universities and 4.24 lakhs (83.09%) in the beginning of the reporting year.

The Gross Enrolment Ratio (GER) in Higher Education in India shows marginal upper trends during the present years. The present GER (18 to 23 years) estimated from various sources are shown in table 3 (Ravi Srivastav & Sinha, 2008).

Table 3: Enrolment Ratio in Higher education

| Sources | GER (%) | | Enrolment Rate of Eligible Students (%) | |
|-------------------------------------------|-------------------------|----------------|-----------------------------------------|-------|
| | All Graduates and above | Only Graduates | Only Diploma | All |
| Selected Educational Statistics (2006-07) | 10.08 | — | — | NA |
| National Sample Survey (2004-05) | 12.59 | 10.84 | 1.75 | 56.61 |
| Population Census 2001 | 13.6 | NA | NA | NA |

The Impact of Globalization on Inclusive Growth in Higher Education

Globalization, a key reality in the 21st century, has already profoundly influenced higher education. Globalization is defined as the reality shaped by an increasingly integrated world economy, new information and communications technology (ICT), the emergence of an international knowledge network, the role of the English language, and other forces beyond the control of academic institutions.

Internationalization is defined as the variety of policies and programs that universities and governments implement to respond to globalization. These typically include sending students to study abroad, setting up a branch campus overseas, or engaging in some type of inter-institutional partnership.

Universities have always been affected by international trends and to a certain degree operated within a broader international community of academic institutions, scholars, and research. Yet, 21st century realities have magnified the importance of the global context.

The rise of English as the dominant language of scientific communication is unprecedented since Latin dominated the academy in medieval Europe.

Information and communications technologies have created a universal means of instantaneous contact and simplified scientific communication. At the same time, these changes have helped to concentrate ownership of publishers, databases, and other key resources in the hands of the strongest universities and some multinational companies, located almost exclusively in the developed world.

For some the impact of globalization on higher education offers exciting new opportunities for study and research no longer limited by national boundaries. For others the trend represents an assault on national culture and autonomy. It is undoubtedly both. At the very least, with 2.5 million students, countless scholars, degrees and universities moving about the globe freely there is a pressing need for international cooperation and agreements. But agreements on, for example, international benchmarks and standards to properly evaluate unfamiliar foreign qualifications are not reached easily. Internationalization has been very prominent at regional and international level. The Bologna Process and Lisbon Strategy in Europe are the clearest examples of international engagement at this level, with the first drawing more than 40 countries into a voluntary process of enabling a European Higher Education Area. This has become a reference for similar efforts elsewhere in the world.

The last decade has also seen a veritable explosion in numbers of programs and institutions that are operating internationally. Some countries have stand out (Qatar, Singapore and the United Arab Emirates) and have boldly promoted internationalization as a matter of national policies. But for the world's poorest countries and most resource-deprived institutions, the opportunities to engage internationally can be extremely limited.

Inequality among national higher education systems as well as within countries has increased in the past several decades. The academic world has always been characterized by centers and peripheries. The strongest universities, usually because of their research prowess and reputation for excellence, are seen as centers. African universities for example, have found it extremely challenging and complex to find their footing on the global higher education stage - they barely register on world institutional rankings and league tables and produce a tiny percentage of the world's research output. There is growing tension around the center-periphery dynamic. Developing countries often desire world-class universities on par with the traditional universities at "the center". The rankings of academic institutions and degree programs add to this tension. International rankings favour universities that use English as the main language of instruction and research, have a large array of disciplines and programs and substantial research funds from government or other sources. These rankings have methodological problems but they are widely used and influential, and show no signs of disappearing.

The wealth of nations and universities plays a key role in determining the quality and centrality of a university or academic system. This places developing countries at a significant disadvantage, and puts special strains on most academic systems facing the dilemma of expanded enrollment and the need to support top-quality research universities.

Regional Disparities in Higher Education (HE)

Figure 1 will show the unequal growth of Higher Education during the period 2000 and 2007.

Table 4 will show the growth in HE in different countries including top ten in economics.

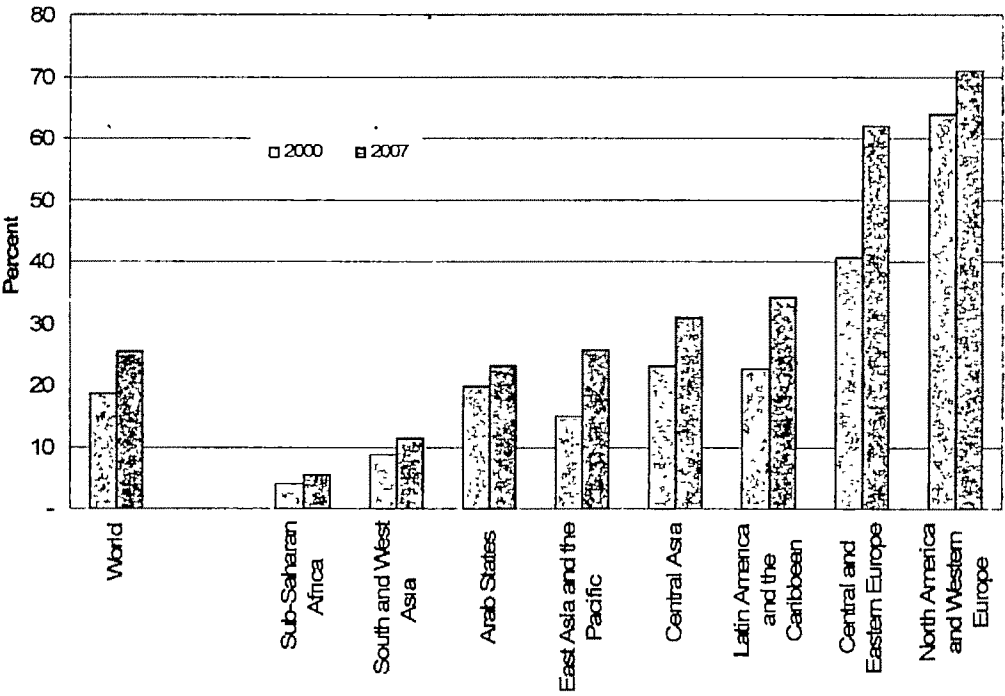


Figure 1. Tertiary Gross Enrolment Ratio by geographical region, 2000 and 2007

Table 4: Growth in Higher Education Enrolment, Enrolment Ratio GNP per capita
(Select countries including ten top economies)

| Country | Enrolment (in millions) | | Increase % | GER 2001 % | GNP per Capita (In US \$) |
|--------------|-------------------------|--------------|--------------|------------|---------------------------|
| | 1990/91 | 2001/02 | | | |
| USA | 13.71 | 15.93 | 16.2 | 81 | 34,280 |
| China | 3.82 | 12.14 | 217.7 | 13 | 890 |
| Japan | 2.90 | 3.97 | 36.8 | 49 | 35,610 |
| India | 4.95 | 10.58 | 113.6 | 11 | 460 |
| UK | 1.26 | 2.24 | 78.1 | 64 | 25,120 |
| France | 1.70 | 2.03 | 19.4 | 54 | 22,730 |
| Italy | 1.45 | 1.85 | 27.7 | 53 | 19,390 |
| Brazil | 1.54 | 3.13 | 103.0 | 18 | 3,070 |
| Russia | 5.10 | 8.02 | 57.3 | 70 | 1,750 |
| Canada | 0.84 | 1.19 | 41.7 | 58 | 21,980 |
| Indonesia | 1.59 | 3.18 | 99.7 | 15 | 690 |
| Philippines | 1.71 | 2.47 | 44.3 | 31 | 1,030 |
| Australia | 0.49 | 0.87 | 79.1 | 65 | 19,900 |
| Malaysia | 0.12 | 0.56 | 358.9 | 27 | 3,330 |

Source: Indian Council for Research on International Economic Relations 2006

Inclusive Growth and 11th Plan Perspectives

Higher education in India is in deep financial strain, with escalating costs and increasing needs, on the one hand, and shrinking budgetary resources, on the other. The share of higher education in total planned resources increased from 0.71% in the first Five-Year plan to 1.24 % in the fourth Five-Year plan. But ever since, it has declined continuously to 0.53% in the seventh Five-Year plan and further down to 0.35% in the eighth Five-Year plan (1992-97), though the actual expenditure has increased by more than 100 times from Rs.140 million in the first Five-Year plan to Rs. 15,000 million in the eighth Five-Year plan at current prices, and 6.5 times in terms of real prices. Thus, although higher education in India is characterized by massive public investment, this investment is still regarded as much below the optimum.

Recently, major efforts have been mounted for mobilization of resources and it has been recommended that while the Government should make a firm commitment to higher

education, institutions of higher education should make efforts to raise their own resources by raising the fee levels, encouraging private donations and by generating revenues through consultancy and other activities. Educational Cess has been mooted for the development of HE in India. It is clearly seen that if higher education has to be maintained and developed further, the Government will have to step up measures for encouraging self-reliance while providing a much more massive investment than hitherto.

The Eleventh Plan Approach Paper spelt out that a key element of the strategy for *Inclusive Growth* must be “to provide the mass of our people access to basic facilities such as health, education, clean drinking water etc that they need. ...Governments at different levels have to ensure the provision of these services and this must be an essential part of our strategy for inclusive growth.”

The important challenges identified by the Planning Commission are:

- (a) *Providing Essential Public Services for the Poor*
- (b) *Regaining Agricultural Dynamism*
- (c) *Increasing Manufacturing Competitiveness*
- (d) *Developing Human Resources*
- (e) *Protecting the Environment*
- (f) *Improving Rehabilitation and Resettlement Practices*
- (g) *Improving Governance*

For this purpose many ambitious plans have been made and some have been started, but we do not know how much it will gain momentum in the future.

Conclusion

In 2008, the Organization for Economic Cooperation and Development identified several key demographic trends for the period to 2030. Some of the key elements are:

- Student participation will continue to expand, as will higher education systems. Only a few countries will see a contraction in student numbers;
- Women will form the majority in student populations in most developed countries and will substantially expand their participation everywhere;
- The mix of the student population will become more varied, with greater numbers of international students, older students, part-time students, and other types;
- The social base in higher education will continue to broaden, along with uncertainty about how this will affect inequalities of educational opportunities between social groups;

- Attitudes and policies relating to access as well as the consciousness among disadvantaged groups will change and become more central to national debates;
 - The academic profession will become more internationally oriented and mobile but will still be structured in accordance with national circumstances,
 - The activities and roles of the academic profession will be more diversified and specialized and subject to varied employment contracts; and
 - For many developing countries, the need for ever-expanding numbers of university teachers will mean that overall qualifications, now rather low, may not improve much, and current reliance on part-time staff in many countries may continue.
- (World Conference on Higher Education, UNESCO, 2009)

For proper Inclusive Growth in India the above issues are to be kept in mind. Otherwise we will lag behind from other countries ranking even lower than us.

References

- AGARWAL, P., 2006. Higher education in India The need for change. New Delhi
- AMBANI, M & BIRLA, K. 2000. Report on A Policy Framework for Reforms in Education, Government of India, New Delhi.
- AMBANI, M & BIRLA, K. 2000. Report on A Policy Framework for Reforms in Education, Government of India, New Delhi.
- BANERJI RUKMINI & WADHWA, W., 2008. Annual Status of Education Report (2005 to 2007) (Pratham), March 2008: New Delhi.
- DELORS, J., 1996. Learning The Treasure within (Report to UNESCO of International Commission on Education for 21st Century), Paris
- JHA, 2006. Higher Education in India-Restructuring for increased innovation, Document prepared for the World Bank, June 2006.
- MINISTRY OF HUMAN RESOURCE DEVELOPMENT 2006. Annual Report, Department of Secondary and Higher Education. Government of India, New Delhi.
- MINISTRY OF HUMAN RESOURCE DEVELOPMENT 2007 Selected Educational Statistics 2004-2005 (as on September 2004), New Delhi Government of India.
- PITRODA, S. 2007. National Knowledge Commission, Government of India, New Delhi.
www.knowledgecommission.gov.in
- PLANNING COMMISSION 2007. Draft Report of Working Group on Higher Education for the XI Plan, Government of India.
- THE TIMES OF INDIA (Kolkata edition), March 07, 2008
- THORAT, S. 2006. Higher Education in India- Emerging Issues Related to Access, Inclusiveness and Quality. Nehru Memorial Lecture, Mumbai.
- UNESCO, Dr. Swaminathan Panel Report, 1992. Education for all by 2015.
- WORLD BANK 2002. Constructing Knowledge societies: New Challenge for Tertiary Education, www.worldbank.org
www.icrier.org/publication/working_papers_180.html.

In Search Of Quality: Role Of Teacher Educators

Ganesh Anant Hegde¹

Quality begins inside... and then works its way out.
- Bob Moawad

Abstract : *Quality is essentially the artifact of adequate investment of capital, talent and sustained hard work. Quality is not a destination; it is a continuous journey. Education is one of such area where improvements need to be held at every stage. Enhancing the quality of teacher is essential as it ensures the continuous improvements. Teacher and teacher educators need to be trained in a professional manner. The major component of the teacher education is in its micro teaching, lesson plans, practice teaching lessons, theory and its design in implementation. Translating the theory in to practice is one of the major challenging components for teacher educators. The teacher educators need to be trained professionally to face the situations in the classroom where the churning out takes place. Classroom should be more active, vibrant and energetic with activities, events and measures to stimulate the young minds to create a congenial environment for learning. In other words, 'see what they see' must be the logo at the work place called a classroom. Teacher must bring-in a discernible change in the teaching plan and realize them that the students must be compelled to do what needs to be done by adopting ways that they would appreciate and be part of. The students and teacher relationship makes difference when it comes to in terms of learning. Jon Saphier and Robert Gower have divided the nuts and bolts of teaching into four areas: First one is Management, which includes classroom routines and transitions, discipline, momentum, and getting students' attention and secondly Instruction, which includes clarity, the principles of learning, and models of teaching; thirdly Motivation, which outlines teacher behaviours that establish high expectations for all, help with relationship building, and the classroom climate; fourth one is Curriculum, which includes objectives, the learning experience, assessment, and curriculum design. The National Council for Teacher Education (NCTE) which is an apex body for recognizing the teacher education institutions in the country has necessitated in implementing a compulsory paper on ICT and other quality enhancement strategies in teacher education institutions. Assessment and accreditation of teacher education for quality assurance has become imperative to maintain the standards. Further, it improves the quality of teacher education. NCTE has made the assessment and accreditation as one of the condition for sanctioning additional courses and also enhancement of seats. The accreditation process helps the institution to know its strengths, weakness, opportunities and challenges to be faced in this competitive world. The process initiates institution into innovative and implementation of modern methods of pedagogy. It gives the institution a new sense of direction and identity. This paper essentially looks into the pedagogical challenges in delivering the class rooms and necessitates the changes needed and further help to improve the quality of teaching in Teacher Education.*

Key Words: Teacher Educator, Teacher Education, Quality teaching, ICT.

Introduction

The Indian system of higher education has always responded well to the challenges of the times. The Ministry of Human Resource Development (MHRD) and the University Grants Commission (UGC) took initiatives to ensure the standards of higher education. The higher education system has witnessed rapid expansion of education in the post independence era in terms of the number of students and staff; colleges and universities. Higher Education has increased from 19 universities in 1947 to 412 and similar type of expansion in the number of

¹ Assistant Adviser in NAAC, Bangalore

colleges about 500 to 20,122 by the end of 2008. There is an addition of 4.35% annually. The expansion in terms of infrastructure and manpower is reflected in the quantum of financial allocation from time to time. The present outlay for higher education in the XI plan is about 51,000 crores and many initiatives were taken up by the MHRD and UGC to upgrade the existing Universities and Colleges and create new Universities for access and equity.

The University Grants Commission (UGC) established the National Assessment and Accreditation Council (NAAC) in 1994 as an autonomous institution at Bangalore. NAAC vision and mission statements clearly specifies its functioning highlighting quality assurance mechanism in higher education institutions with the combination of self and external quality evaluation, promotion & sustenance activities and initiatives. The prime agenda of NAAC is to Assess and Accredite institutions of higher learning with an objective of helping them to work continuously to improve the quality of education. Assessment is a performance evaluation of an institution and /or its units and is accomplished through a process based on self-study and peer review using defined criteria. Accreditation refers to the certification given by NAAC which is valid for a period of five Years. The process of Assessment followed by NAAC is in accordance with internationally accepted practice but, with certain modifications to suit the Indian context. The philosophy of NAAC is ameliorative and enabling rather than punitive or judgmental, so that all constituencies of institutions of higher learning are empowered to maximize their resources, opportunities and capabilities.

NAAC has assessed and accredited 159 Universities and 4094 Colleges including 51 Universities and 337 Colleges Re-accredited and the total is 4253 institutions as on 28th March 2010.

The NAAC advocates every accredited institution should have the Internal Quality Assurance Cell to internalize and institutionalize quality culture. The prime task of the IQAC is to develop a system for consistent and catalytic improvement in the performance of institutions. The IQAC is projected to make a significant and meaningful contribution in the accreditation of institutions. IQAC would work as THINK TANK of the institution.

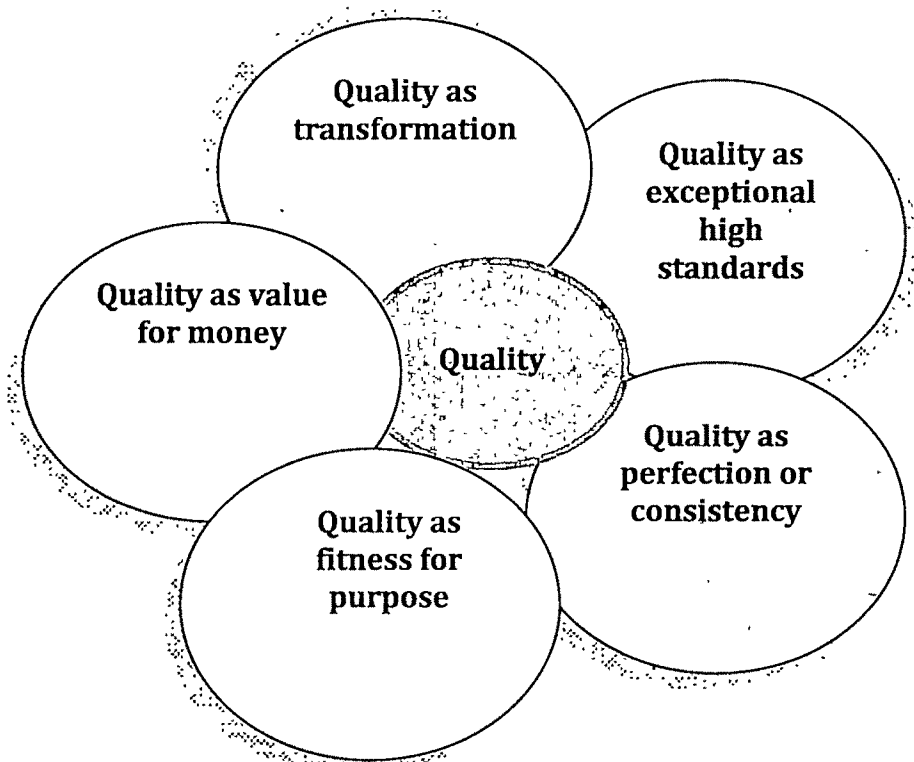
As on 31 January 2006, 5854 teacher training institutions offering 6647 courses have been recognised by the National Council for Teacher Education (NCTE) with an approved intake of 5.22 lakh teacher trainees. In addition PG courses in Education and Physical Education are run in about 223 and 64 institutions respectively. This apart, several Universities run the Ph.D. programmes (data as on 2006). Today the number of institutions must be even higher. The main agenda of Govt. of India is to increase the access rate to 15- 20 %. India needs a large number of teachers to educate our community.

NAAC has entered in to a MoU with the NCTE to assess and accredit teacher education institutions. The total number of accredited teacher and physical education Institutions is more than 350 as on 28-03-2010.

Quality in Higher Education

Quality is always an elusive idea. However, egalitarian education reformers have grouped quality under the following headings as shown in the picture (figure: 1.)

These are five ways of viewing quality in education. Traditionally, quality, in higher education, has been linked to the idea of exceptionally high standards (“exceptional”) A second approach to quality sees it in terms of consistency (Harvey and Green, 1993) (“perfection”) with reference to processes and sets of well defined criteria. A third approach to quality relates to fitness for purpose (Harvey and Green, 1993). In this approach quality has to be accepted as a relative concept, as different interest groups or beneficiaries: namely students, teachers, staff, parents, probable employers, funding agencies and society have different priorities. A fourth approach to quality equates it with value for money ((Harvey & Green, 1993). This factor brings in the idea of accountability, efficiency, and effectiveness. A fifth view of quality sees quality as transformative (Harvey, 1995). Education is to be treated as an ongoing process of transformation of the learner (student).



(Figure:1)

The definition and concept of quality in education may differ from person to person, but it is universally accepted that quality is an on-going multi –dimensional process. The institutional quality in terms of its internal dynamics and external support and image needs to be considered while considering the quality of the institution. Quality of the product (Students) should be of high standards as expected by the employer then only it will have an acceptance. These products from the educational institutions would become the probable teacher (donor) or entrepreneur some day. Hence quality becomes an integral part of the educational system. The core issue is our educational delivery and educational service needs improvement. Practically our teaching and learning process needs improvement. Teaching – Learning Process need to be emphasized as an indicator of quality leading to the piquant situation of quality assurance practices/system. Today it suffers from serious limitations. Quality Assurance Mechanism should ideally begin from the immediate teaching – Learning context because at this level a fairly up-to date curriculum can be translated as worthless heap of information are available. Even an outdated curriculum can be made to yield some meaningful learning experience if there is a symbiotic learning and teaching situation in the classroom. There has been no formal, fool proof mechanism to ensure quality at this level. Attempts need to be made in this direction.

ICT in Teacher Education

NCTE has issued a curriculum framework for quality teacher education in 1998 and made a reference to community, university and ICT for preparation of teachers. Emphasis has been laid on enhancing communication skills and use of ICT and on improvising and using teaching aids. Every teacher in the school has to maintain certain records. The prospective teachers will learn this art and participate in the evaluation of students.

New devices, techniques, mass media especially the electronic, computer assisted learning and information and communication technology have revolutionized the teaching-learning process. Teachers should be made aware of the advances in these areas and made capable of utilizing them in education other wise they would not be able to perform their duties effectively in a rapidly changing learning society. Modern realities and circumstances demand that for the progress of students and the nation, qualitatively rich knowledge, and technology for its transmission, have become the call of the hour.

Use of ICT in Teacher Education changes teaching and learning behavior. Instructions are increasingly conducted electronically to draw the attention of the students. The curriculum based programmes through Edusat and other medium may overcome teacher isolation by breaking down their classroom wall and connecting them to other institutions and experts. Internet is very useful to Teacher Educators because of its access to large information which helps teachers to develop or improve their lesson plans, exchange ideas and obtain feedback. Use of ICT in teacher education will make teacher education highly interactive, individualized, flexible, innovative, accessible, more relevant and affordable.

Use of ICT in Classrooms has some opportunities; a few challenges and modestly obstacles for a Teacher are

| Opportunity | Challenge | Obstacles |
|-------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| To learn newer things | To keep updated | Attitudinal differences; age of the people |
| To enhance the knowledge | To read, learn and enhance the knowledge with different sources | Technological up gradation and unable to keep pace with technology |
| To equip with technological up gradation | To face the trend and go beyond to stay ahead in the field | Non availability of power all the time (at least when we need the power will not be there) |
| To suffuse the students with more knowledge | Stay ahead and be an innovator | The connectivity, networking, use of high end cables, Bandwidth |
| To enhance content, creativity, and innovations | To promote the effective use of technological tools | Mind set to use the advanced instruments and implement in the process |

Teachers and teacher educator needs to learning from each other experiences and it would enables as one of the best ICT user one day. Though there are some practices / incidents here and there about technology with full use but the classrooms concept of age old chalk and talk still exist. It is true that the teacher would be very friendly with his chalk and talk medium (method) but usage of the ICT would enable him to supplement his teaching. The irony is that in most places of our country, cities the electricity is not available all the time for few hours. To keep abreast in latest trends and other such issues it is very difficult to have such gadgets and learn the things. Never the less we need to update our selves. A lighting lamp only can light the other lamp, so the teachers need to modernize his traits. As we all know 'technology can't replace teacher' but with my experience as a teacher I can boldly say that technology can be utilized as catalyst for teaching and learning.

Role of teachers

Teachers are called social doctors. The health of the society depends on the education of the society. As we all know quality of a nation depends upon the quality of its citizen and the quality of the citizens in turn depends on the quality of their education. In order to compete with the world economy, we need to develop quality manpower with modern outlook with value education. The teachers and teacher educators need to play somewhat different role and prepare students for two fold responsibilities-to cater the needs of students for life and prepare them for senior secondary schools. But the major consideration which demands the attention of teacher educators is to maintain the continuity of integrated approach in curriculum development and its transactional strategies and prepare students for subject centered approach. Since teachers at secondary stages have to deal with adolescents they must understand their problems and offer solutions to them including their social transformation and nurturing of their uniqueness. The teacher need to develop competencies required for the selection and use of appropriate educational and information and communication technology for preparing the future generation of students.

Practice teaching, preparation of self-learning materials, assignments and their evaluation, organization of contact programmes, practical use of information and communication technology, preparation of self-evaluation sheet, maintenance of records of students, organization of games, sports and supplementary educational activities and community games and programmes need to be the integral part of the Teacher education institutions. During teaching several problems were come across interms students, availability of resources at right time and place and students ability to understand the problems and to overcome such situations.

David Merrill (2002) has given the **five principles** of the problems which are explained by her is given below with details of citing some representative theorists or investigators who have suggested the principles.

Principle -1: Problem-centered: Much of the current work in cognitive psychology has shown that students learn better when engaged in solving problems (Mayer, 1992a). Problem-centered learning is well represented by a number of recent instructional models including: Collins, Brown and Newman (1989), *Cognitive Apprenticeship*; Schank, Berman, and Macperson (1999), *Goal Based Scenarios*; Jonassen (1999), *Constructivist Learning Environments*; Savery and Duffey (1995), *Problem-Based Learning*; Clark and Blake

(1997), *Novel Problem Solving*, and van Merriënboer (1997), *Whole Task Practice in 4C/ID Model* The definition of a *problem* varies among theorists. For some, a problem is engaging in some form of simulation of a device or situation. Van Merriënboer (1997) recommended that the first problem in a sequence should be a worked example that shows students the type of whole task that they will learn to complete.

| | | |
|-------------|---------|---------------|
| Integration | Problem | Activation |
| Application | | Demonstration |

(Figure – 2)

Principle 2—Activation. It has long been a tenet of education to start where the child is. It is therefore surprising that many instructional products jump immediately into the new material without laying a sufficient foundation for the students. If students have had relevant experience, then the first phase of learning is to be sure that this relevant information is activated ready for use as a foundation for the new knowledge. If students have not had sufficient relevant experience, then the first phase of learning a new skill should be to provide three dimensional experiences that they can use as a foundation for the new knowledge. Too much instruction starts with abstract representations for which learners have insufficient foundation. This paper borrowed the term *activation* from Andre (1997) who provided one of the best recent discussions of this principle. Andre (1997) discussed the role of advance organizers in providing structure for later learning. Mayer (1975) indicated that providing learners with a conceptual model can facilitate the acquisition of problem solving. Clark and Blake (1997) recommended presenting dynamic schema and analog models to promote far transfer.

Principle 3—Demonstration (Show me): Knowledge to be learned exists at two levels: (a) information and (b) portrayal. Information is general and inclusive and refers to many cases or situations. Portrayal is specific and limited and refers to a single case or a single situation. Presenting information is by far the most common form of instruction. Often instruction is merely information followed by a few remember- what-you-were-told questions. This tell and-ask instruction by itself is seldom effective instruction. Instruction is far more effective when it also includes the portrayal level in that the information is demonstrated via specific situations or cases. Learners remember and can apply information far more readily when the information includes specific portrayals. Van Merrienboer (1997) identified a number of different problem formats. He indicated that showing a learner what to do via a worked-out example and modelling examples, which show the learner how to do the problem, are

important first steps in an instructional sequence. Merrill (1994) cited research that shows that presenting examples is more effective than merely presenting information; presenting examples in addition to practice promotes better learning than practice alone.

Demonstration consistency

Gagné (1985) identified categories of learning and suggested that effective learning occurs when the conditions of learning were consistent with the desired category of learned performance. Merrill (1994) elaborated the categories of Gagné and prescribed primary and secondary presentation forms consistent with each outcome category. Merrill (1997) identified the knowledge structure, presentation, practice, and learner guidance that are consistent for each of these different kinds of learning outcomes. Dijkstra & van Merriënboer (1997) identified three classes of problems: (a) problems of categorization, (b) problems of design (plans and procedures), and (c) problems of interpretation (principles, models, and theories). Each of these different classes of problems require different knowledge structures (corresponding to the desired cognitive structure) and different constituent skills (concepts, activities, and processes) if learning is to be efficient and effective. Van Merriënboer (1997) has extended this work in the context of problem-centered instruction.

These theorists agree that if demonstrations are inconsistent with the intended learning outcomes then learning will be ineffective. The consistency criterion should be applied first since if the presentation is inconsistent with the intended learning outcome then it doesn't matter if there is learner guidance or if the media is relevant.

Learner guidance: Clark & Blake (1997) indicated that problem solving (far transfer) is promoted when the structural features are carefully identified and explicitly mapped for the student. This explicate guidance focuses the learner's attention on relevant information in the task. Early in an instructional presentation this attention-focusing function facilitates knowledge acquisition. However, as the instruction progresses this information focusing role should be faded and students expected to attend to and focus their own attention on the relevant aspects of the information (Andre, 1997). Another form of guidance is to provide learners with multiple representations of the ideas being taught and the demonstration being provided. Spiro and Jehng (1990), Schwartz, Lin, Brophy, and Bransford (1999), and Clark and Blake (1997) all stressed the importance of alternative points of view, especially for ill-defined domains and non recurrent skills. Spiro, Feltovich, Jacobson and Coulson (1992), in

cognitive flexibility theory, stressed the importance of coming at a given topic from multiple perspectives.

Principle 4—Application (Let me): Merrill (1994) cited research demonstrating that adding practice to information and examples increases learning. Most instructional design theories advocate application of knowledge and skill as a necessary condition for effective learning. Gagné (1985) stated eliciting performance and providing feedback as necessary instructional events. Gardner (1999) and Perkins and Unger (1999) both emphasized the necessity of many opportunities for performance. All of the problem-based models (Clark & Blake, 1997; Jonassen, 1999; Nelson, 1999; Savery & Duffy, 1995; Schank et al., 1999; Schwartz et al., 1999; van Merriënboer, 1997) emphasized the importance of being involved in doing real-world tasks or problems. It is amazing that with this almost universal agreement on the importance of applying knowledge to real-world tasks, so much instruction merely includes a few multiple-choice questions that are labelled practice. Such remember-what-you-were-told questions do little to promote learning.

Practice consistency: Just as there are different components of knowledge, presentation, and learner guidance appropriate for different kinds of instructional goals, so there are different kinds of practice appropriate for different instructional goals. Engaging in practice that is inconsistent with the desired instructional goal will do little to improve performance. Gagné (1965, 1985) and Merrill (1994, 1997) identified appropriate practice for each of the kinds of knowledge and skill identified. Learning is promoted when the practice is consistent with the learning goal. The consistency criterion should be applied first. If the application is inconsistent with the intended goals of the instruction, then it will be ineffective and it won't matter whether or not there is appropriate coaching and feedback or a sequence of problems. Making errors is a natural consequence of problem solving. Most learners learn from the errors they make, especially when they are shown how to recognize the error, how to recover from the error, and how to avoid the error in the future. Error diagnosis and correction is a fundamental principle of minimalism (van der Meij & Carroll, 1998). Regina M. Clark has identified Ten Action Points (TAP) for the innovative practices has identified one of the action point as allow failures, in turn this would teach how to be successful.

Varied problems

Applying knowledge to a single problem is insufficient for learning a cognitive skill. Adequate practice must provide multiple opportunities for learners to use their new knowledge or skill for a variety of problems. Andre (1986) indicated the importance of

providing learners with a range of examples. Merrill, Tennyson, and Posey (1992) indicated that a necessary condition for effective concept instruction was a range of divergent examples. Tennyson & Park (1980) and Tennyson & Cocchierella (1986) reviewed research demonstrating the value of a sequence of varied examples in concept instruction, and van Merriënboer (1997) stressed variability of practice.

Principle 5—Integration: McCarthy (1996) suggested that the fourth phase of effective instruction is creating personal adaptations of the new knowledge and skill. The Vanderbilt group (Schwartz et al., 1999) included reflecting back on the experience as a step in their Star Legacy system. Current instruction literature has much to say about the importance of motivation. Often glitz, animation, multimedia, and games are justified as motivational elements of an instructional product. However, for the most part, these aspects have a temporary effect on motivation. The real motivation for learners is learning. Learners have integrated instruction into their lives when they are able to demonstrate improvement in skill, to defend their new knowledge, and to modify their new knowledge for use in their everyday lives.

Watch me

Whenever learners acquire new skills, their first desire is to show a close friend or associate their newly acquired ability. Learning is the most motivating of all activities when the learner can observe his or her own progress. One of the main attractions of computer games is the increasing skill level that is apparent to the player. Effective instruction must provide an opportunity for learners to demonstrate their newly acquired skills. This principle of going public with their newly acquired knowledge is emphasized in *Teaching for Understanding* (Gardner, 1999; Perkins & Unger, 1999) and for Vanderbilt's *Star Legacy* (Schwartz et al., 1999).

This overview is representative only and does not present all of the principles specified by the theory, but only enough to give the reader a feel for the correspondence with the first principles stated. The reader is encouraged to examine these and other theories in detail to determine whether or not the theory reflects the first principles as stated.

McCarthy 4 Mat Cycle of Learning (1996)

McCarthy (1996) represented a model used by many teachers in K–12 education. McCarthy is seldom cited in the instructional technology literature. Her work is important to our consideration of first principles because she made the learning cycle explicit. McCarthy

approached this idea from a consideration of student learning styles but concluded that, although learners may have preference for various approaches to learning, effective instruction requires them to be involved in the whole cycle of learning activities. Figure given below illustrates some of the ideas that she emphasized in her 4-MAT approach.

| | |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Renewing Refine, integrate, adapt, re-present, share, renew | Meaning Connect, examine, Share, dialogue, reflect |
| IF? 4 | WHY? |
| HOW? 3 | WHAT? |
| Operationalising Act, practice, tinker, try, extend | Conceptualising Acquire knowledge, understand theory, Imagine, define |

(Figure :3)

Nelson—Collaborative Problem Solving

Nelson's (1999) theory emphasized problem solving and included all of the phases, but with more emphasis on application and less emphasis on demonstration. She attempted to provide "an integrated set of guidelines . . . to design and participate in authentic learning environments which invoke critical thinking, creativity, and complex problem solving while developing important social interaction skills" (p. 246). She provided an extensive list of guidelines, and the source for these guidelines, organized under nine process activities:

1. Build readiness.
2. Form and norm groups.
3. Determine a preliminary problem definition.
4. Define and assign roles.
5. Engage in an iterative collaborative problem solving process.
6. Finalize the solution or project.
7. Synthesize and reflect.
8. Assess products and processes.
9. Provide closure. (Nelson, 1999, Table 11.2, p. 258)

Some of these activities are clearly related to collaboration and, as such, are not included in our set of first principles (see especially numbers 2, 4, and 9). I view collaboration as one way to implement first principles; thus the activity guidelines for collaboration provided by

Nelson are viewed as implementation guidelines rather than first principles. Nelson (1999) was clearly problem oriented as demonstrated by the following guideline: "Develop an authentic problem or project scenario to anchor instruction and learning activities" (p. 258).

She promoted activation via the following learning activities: "[a] Negotiate a common understanding of the problem, [b] Identify learning issues and goals, and [c] Brainstorm preliminary solutions or project plans" (Nelson, 1999, p. 258). She provided guidelines for gathering information that may be required for the problem solving process. Merrill David viewed these activities as part of application rather than demonstration per se: "[a] Identify sources of needed resources, [b] Gather preliminary information to validate the design plan, [c] Acquire needed information, resources, and expertise, and [d] Collaborate with instructor to acquire additional resources and skills needed" (Nelson, 1999, p. 258).

Application activities include: "[a] Select and develop initial design plan, [b] Refine and evolve the design plan, [c] Engage in solution or project development work, [d] Conduct formative evaluations of the solution or project, [e] Draft the preliminary final version of the solution or project, [f] Conduct the final evaluation or usability test of the solution or project, [g] Revise and complete the final version of the solution or project, and [h] Evaluate the products and artifacts created" (Nelson, 1999, p. 258). Integration activities include: "[a] Identify learning gains, [b] Debrief experiences and feelings about the process, and [c] Reflect on group and individual learning processes" (Nelson, 1999, p. 258).

David Merrill first principles would be agreeable Instruction which helps the teacher educators as well as institutions to enthuse the students and teachers for creative thinking, motivation and innovation.

Training

Training is one aspect, which needs much attention by the Teacher Education Institutions. The use of IT and its benefits has to be explained in a professional way to the teacher educators. In service training is very much necessary to equip those teachers with

Note: Flanders Interaction Analysis Category System (FIACS): Flanders Interaction Analysis is a system of classroom interaction analysis. The system in its original and modified forms has been used extensively in classroom observation studies (Wragg, 1999). It has also been used in the study of differences between expert and non-expert PBL tutors at University of Michigan Medical School (Davis et al 1992). It is a system for coding spontaneous verbal communication. The system has two primary uses, Firstly to provide evidence of difference in teaching patterns

that distinguish one curriculum from another and secondly it can also provide data which may help to explain why differences in learning outcomes appeared or failed to appear. The system will be used for both purposes in the PEPBL study.

Pedagogical approach and use of ICT. It enables teacher educators to develop core competencies, communication and performance skills. Training teachers in the field of research methodology and action research will enhance the quality of teacher educators.

Teachers' Preparedness for Teaching with Technology

The implications on teacher education Institutions are considerable. A requirement for students to develop work related computer skills could be accommodated through separate classes taught by specialist computing teachers. Other teachers were under no obligation to develop or apply knowledge and skills in the use of ICT. However, the new expectations demands that every teacher should integrate technology into their curriculum. NCTE has instructed the Education Institutions to integrate the ICT into the curriculum. The associated changes in teacher knowledge and skills will need to be addressed through professional development for the existing teachers and through initial teacher education programs for future teachers.

Based on the discussions above some points for suggestion were given below for further development of the Teacher Education Institutions:

1. In the lesson planning, the students should write Specific Objectives and corresponding Previous Knowledge.
2. The student teachers should be given training in different skills in simulation. For each skill, more practice is required. Integrated lessons may be given.
3. The student Teachers should be given training in Models of Teaching, such as, Concept Attainment Model, Inquiry Training Model, Role Playing Model, Jurisprudential Model, Advance Organizer Model, etc. These models should be practiced by students' teachers.
4. Student Teachers are trained in observing lessons of their peers through the use of Flanders Interaction Analysis Category System (FIACS).
5. The college should increase the number of lessons given in the schools. Each lesson should be checked by Method teacher educator before it is given. Further each lesson should be observed by teacher educator and individual as well as collective feedback be given.

6. The college should give the teaching aids prepared by the student teachers to the practice teaching school so that teachers can use them later on
7. The college should organize short duration workshops for school teacher. It may be related to Teaching of Concept, Paper setting, developing Inquiry skill, developing Reasoning and Thinking, use of ICT, etc.
8. The Teacher Educators should publish papers in journals of repute.
9. The Action Research should be done with the help of B.Ed. students.
10. The College should organize Faculty development Programme related to Models of Teaching, Micro teaching, Jerk Technology, Innovations in Methods of Teaching, Open Book Examination, Development of Reasoning and Thinking, etc.

Conclusion

Teacher education Institutions has been responsive to the challenges faced by educational system in general and the school education in particular. Teacher education programme is essentially a human development activity. It has to respond to various changes in its social, political, economic as well as cultural contexts. Developments in Technology during the last two decades have transformed human life in the world more particularly in India. New technologies related to Multi-media, information and communication technology has impact on the instructional design, process, e-learning and re-defined the concept of library and its service. Education that does not review and rethink its content and processes soon loses its relevance.

The teacher education institutions need to improve upon translating the theory into practice interms of process and programmes. The theories explained by David Merrill would help the teacher educators for improving their techniques and delivery mechanisms. If these principles are applied in the programme it would help the institution to upgrade the programme and teacher student skills. Further, it may add new dimensions in the students' perspective when they become teachers and while they teach in the classroom. Quality can be cultivated through classroom activities, mutual cooperation, collaboration and sharing the best practices, research and sincere efforts among the institutions.

References

- ANDRE, T. 1986. Problem-solving in education, In Phye G.D. & Andre T. (Eds) *Cognitive classroom learning*, New York Academic Press. pp. 169–204
- ANDRE, T. 1997. Selected micro instructional methods to facilitate knowledge construction: implications for instructional design, In Tennyson, R.D. Schott, F. Seel, N. & Dijkstra, S.(Ed). *Instructional design: International perspective. Theory, research, and models*, Vol. 1, Mahwah, NJ: Lawrence Erlbaum Associates pp. 243–267
- CLARK, R.E. & BLAKE, S.B. 1997 Designing training for novel problem-solving transfer. In Tennyson, R.D. Schott, F. Seel, N. & Dijkstra, S. (Ed). *Instructional design: International perspective: Theory, research, and models*, Vol. 1, Mahwah, NJ: Lawrence Erlbaum Associates. pp. 183–214
- COLLINS, A., Brown, J.S., & Newman, S.E. 1989. Cognitive apprenticeship: Teaching the crafts of reading, writing, and mathematics, In Resnick L.B. (Ed). *Knowing, learning and instruction: Essays in honor of Robert Glaser Hillsdale*, NJ: Lawrence Erlbaum Associates. pp. 453–494
- DIJKSTRA, S., & VAN MERRIËNBOER, J.J.G. 1997. Plans, procedures, and theories to solve instructional design problems. In Dijkstra, S. Seel, N. Schott F. & Tennyson R.D. (Eds.) *Instructional design international perspective: Solving instructional design problems*, Vol. 2 Mahwah, NJ: Lawrence Erlbaum Associates, pp. 23–43
- GAGNÉ, R.M. 1985. *The conditions of learning and theory of instruction* (4th Edition), New York: Holt, Rinehart and Winston
- MAYER, R.E. 1975. Different problem-solving competencies established in learning computer programming with and without meaningful models, In *Journal of Educational Psychology*, Pp 67, 725–734
- MAYER, R.E. 1992. *Thinking, problem solving, cognition* (2nd Ed.), New York: W.H. Freeman.
- MAYER, R.E. 1992. Illustrations that instruct, In Glaser R. (Ed.), *Advances in instructional psychology*, Hillsdale, NJ: Lawrence Erlbaum Associates.
- MAYER, R.E. 2001. *Multimedia learning*, London :Cambridge University Press.
- MERRILL, M.D., TENNYSON, R.D. & POSEY, L.O. 1992. *Teaching concepts: An instructional design guide* (2nd Ed.), Educational Technology Publications: Englewood Cliffs
- NELSON, L.M. 1999. Collaborative problem solving, In Reigeluth C.M. (Ed.), *Instructional design theories and models: A new paradigm of instructional theory*, Vol. II, Lawrence Erlbaum Associates: Mahwah, NJ. pp.241–267
- PERKINS, D.H., & UNGER, C. 1999. Teaching and learning for understanding, In Reigeluth C.M. (Ed.), *Instructional design theories and models: A new paradigm of instructional theory*, Vol. II, Mahwah, NJ: Lawrence Erlbaum Associates. Pp. 91–114
- SCHANK, R.C., BERMAN, T.R. & MACPERSON, K.A. 1999. Learning by doing. In Reigeluth C.M. (Ed.), *Instructional design theories and models: A new paradigm of instructional theory*, Vol. II, Mahwah, NJ Lawrence Erlbaum Associates. Pp. 161–181
- SCHWARTZ, D., LIN, X., BROPHY, S., & BRANSFORD, J.D. (1999). Toward the development of flexibly adaptive instructional designs. In Reigeluth C.M. (Ed.), *Instructional design theories and models: A new paradigm of instructional theory*, Vol. II, Mahwah, NJ: Lawrence Erlbaum Associates. Pp. 183–213
- TENNYSON, R.D., & COCCHIERELLA, M.J. 1986. An empirically based instructional design theory for teaching concepts, In *Review of Educational Research*, 56 Pp 40–72.
- VAN DER MEIJ, H., & CARROLL, J.M. 1998. Principles and heuristics for designing minimalist instruction, In Carroll J.M. (Ed) *Minimalism beyond the Nurnberg funnel*, Cambridge :MIT Press. pp. 19–53

Integrative Review of Literature from Meta-Analysis Perspective

Pranab Kumar Chakrabarti¹

Abstract : *Meta-analysis is a set of techniques used for integrating the results of a large collection of individual studies. It is based on statistical techniques applied to draw a single meaningful conclusion from many similar studies but varying in methodology and for findings. The author proposes that by eliminating the word "statistical" from definition, meta-analysis may be fruitfully used both for qualitative and quantitative integration of review of literature. Some simple methods of Meta analysis have been mentioned. Six types of literature are presented after Cooper for each of which separate Meta analytic approaches may be useful. An integrative model for review is given which shows the basic approach to be followed for each of the five stages of research.*

Keywords: Integrative Review, Meta-Analysis.

Prelude

Contemporary educational research in India appears to have lost its way in the blind alley of orthodox, rigid, inert methodology, ritualistically followed by the researchers in most of the cases. Those who have been academically brought up in this barren infertile research atmosphere sincerely believe that touching upon the peripheral issues in education superficially will yield good research output. As for example, many researcher even after the first decade of 21st century believe that study of infrastructure is an important area of research in relation to literary or the like, which in fact, should be taken up for studies in the perspective of social dynamics.

It is not my intention to present a critical view of the contemporary educational research because; I am not competent enough to take stock of the vast specialized areas of educational research including philosophy, history, sociology or economics of education which have their own unique methodology. I only want to point out that there is an ocean of methodological options which would help to go into the deepest root of educational issues and problems, which would help to generate new theories or cut across the disciplinary barriers. Even, I cannot take up the whole body of research for these small articles; instead, let me remain confined to only one essential step of research commonly known as Review of Literature or Review of Research.

Review of Literature

The term review of literature is popularly and ritualistically chanted in educational research parlance that many of my young readers may disagree to read further into this article because they are likely to feel it to be insulting to their knowledge. I shall therefore, concentrate on

¹ Former Professor, Department of Education, University of Calcutta, Kolkata.

the method of review and that too only from the meta-analytic perspective and hope to draw a little more attention of the readers.

Meta-Analysis

What is meta-analysis? An US statistician and psychologist Gene V. Glass introduced the term in 1976 in the journal *Educational Research*. He defined it as the statistical analysis of a large collection of result from individual studies for purpose of integrating the findings. Thus meta-analysis is a set of techniques for combining the results of a number of research studies and analyzing them statistically as a single data set (Coleman). Meta analysis helps to unify and integrate many research results and the inevitable single conclusion emerges. As for example, one hundred years of research in the heritability of intelligence only provided us with conflicting results. But after meta-analysis of all the researches in 1985, it was concluded that heritability ratio of intelligence in relation to environment is only .30- .35 meaning that only 30-35% of the variance associated with intellectual behaviour is accounted by heredity and rest by environment.

If we drop the term statistical from the definition of meta-analysis, it readily fits into the technique of conducting review of literature universally, because one major purpose of review of literature is to integrate many research results to draw a single conclusion. It has been assessed that literature reviews are playing the increasing role in defining knowledge since the 1980s. this expanding role of reviews is a response to the increase in human resources and research activity in the social science. The "Psych-INFO" reference data base has pointed out that since 1980, the document type literature review has been assigned to 1 in every 25 documents catalogued by the system.

The growth in social science knowledge base appears to have two effects on individual scholars. First, social scientists attempt to narrow down their areas of specialization and second, consequent upon the first, researches rely to a greater extent on literature reviews to remain abreast of developments in the related fields.

Cooper (1988) identified six taxonomic categories of review characteristics, namely, (a) focus, (b) goal, (c) perspective, (d) coverage, (e) organization and (f) audience. It was found that over half of all reviews primarily focused on research outcomes. Further, one-fourth of the reviews had aimed to generalize based on the synthesis of others' scholarship. In other words, the reviewer mentions that the integration of research outcomes for the purpose of drawing general conclusions was the reason for undertaking the review. Meta-analysis helps to make the desired generalization in a major way. Before delving into the depth of meat-

analysis further, let us summarize the Taxonomy of literature review as proposed by Cooper(1988). It is presented in the table given below:

Taxonomy of Literature Review:

| Characteristic | Categories |
|------------------|----------------------------------------------------------------------------------------------|
| (a) Focus | (a) Research outcomes, research methods, theories, practices or application. |
| (b) Goal | (b) integration- generalization, conflict resolution, linguistic bridge building, criticism. |
| (c) Perspective | (c) Identification of central issues, neutral representation, espousal position. |
| (d) Coverage | (d) Exhaustive, exhaustive with selective citation, representative, central or pivotal. |
| (e) Organization | (e) Historical, conceptual, methodological. |
| (f)Audience | (f) .Specialized scholars, general scholar, practitioners or policy makers, general public. |

Methods of meta-analysis

Two broad approaches of meta-analysis for review of literature have to be considered here- Quantitative and Qualitative. But definition, meta-analysis is essentially quantitative, but extending its scope by deleting the word “statistical” from the definition, the qualitative analysis also becomes a distinct probability. Let us take the example of male-female difference in certain issue, say, environment awareness. Suppose the researcher has gathered 14 research reports, 9 of which conclude that there is significant difference between male and female respondents in environment awareness and 5 did not find any such difference. Out of the 9 studies, 5 obtained the level of significance at .05, 4 at .02 and one at .01. Can the researcher decide that the male-female difference can be generalized and her own sampling should take care of gender difference?

Originally, Rosenthal (1978, 1979) and Cooper (1978) proposed quantitative methods, which, I think, need not be detailed down because; it is not within the purview of this article. It is sufficient to mention that the method suggested by Rosenthal is based on cumulative effect of Z to weight inference tests differentially which can be based on any criterion the reviewer may choose, as for example, the methodological rigor of the individual studies. Hedges and Olkin (1980) described four procedures. Three of the procedures use data from the studies that report significant findings only. The fourth procedure is relatively simple, as it involves, (a) counting the number of positive and negative results, regardless of significance, and (b) applying the sign test to determine if one direction appears in the literature more often than would be expected by chance.

There are numerous such quantitative methods they have been proposed by many researchers (Hedgs and Olkin, 1985, Cooper, 1989, Wolf, 1986). Essence of these procedures can be summarized into four sets of statistics: (a) combination of p-levels of independent inference tests, (b) a frequency analysis of positive and negative results by sign test, (c) estimates of average effect sizes with confidence intervals, and (d) homogeneity analysis examining study features that might moderate study outcomes. Apart from quantitative homogeneity analysis, the fourth procedures provide scope for qualitative homogeneity analysis also.

Integrative review of literature

Research reviewers disagree about how exhaustive a literature search needs to be. Some reviewers prefer to go great lengths covering as much relevant material as possible. Others are less thorough. Those who favour to limit synthesis of published materials agree that publication is an important screening device for maintaining quality control because it gives us the best evidence available. Also including unpublished research typically does not change the nature of the general conclusions drawn by reviewers. Therefore, they do not strive much to search for the unpublished studies.

Reviewers usually report about six to seven technique for searching published materials, the four most common techniques being, (a) computer search of reference data base, (b) the bibliographic search, (c) personal contact search and (d) manual search tapping primarily the printed materials one by one. But how is the integrative review done? A typical model may be found in the table given below. The model has been recommended by Cooper (1982) an abridged version is being presented which may suit educational researchers of our counting.

An integrative model of literature review

| Stage characteristics | Research question asked | Primary function in review | Procedural differences causing varied conclusion | Sources of potential invalidity in review |
|-----------------------|---------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------|
| Problem formation | What evidence should be included in the review | Constructing definition | Differences in operation definition and details | Whether concepts are narrow or superficial |
| Data collection | What procedure should be used to find relevant evidence | The source of potentially relevant studies to be examined | Differences in the sources of information | To what extant the target population and sample are different |

| | | | | |
|------------------------------------|----------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------|
| Stage of research data evaluations | What evidence to be retrieved | Differentiation the valid from invalid studies | Differences in the quality criteria and their influence | Non equality and omission factor |
| Analysis / Interpretation | What procedure should be used to make inference about the difference | Synthesizing valid studies | Differences in the rules of inference | Review based inference may point to wrong causality. |
| Presentation | What information should be included in the review report? | Applying editorial criteria | Differences in guide lines for editorial judgment | Omission of findings and review procedures may make conclusion obsolete |

However, the model may be further simplified keeping the basic guidelines of Cooper unchanged.

Quality of integrative research reviews

Perhaps the most important and perplexing question is, how to distinguish between good review and the bad ones? The model presented above also serves to some extent in that direction. This leads to several explicit questions that relate to quality: (a) Do the operations appearing in the literature fit the reviewer's abstract definition? (b) Is enough attention paid to the methodological details of the primary studies? (c) Was the literature search thorough? (d) Were primary studies evaluated using explicit and consistent rules, (e) Were valid procedures used to combine the results of independent studies?

Strike and Posner (1983) proposed three criteria of a good synthesis.(1) A synthesis clarifies and resolves rather than obscure inconsistencies within the material being synthesized. (2) A synthesis should result in progressive problem shift involving greater explanatory power expanded scope of application, and increased capacity to meet unresolved issues. (3) It should answer the questions asked. However, these standards are highly abstract no doubt. Seven open ended simple questions may help our researchers which indicate to the six dimensions of a good integrative research review from meta-analytic perspective. The dimensions are: (a) Organization, (b) Writing style, (c) Clarity of focus, (d) Use of citation, (e) Attention to variable definitions, (f) Attention to study methodology, and (g) Manuscript

preparation. But I am a bit cynic about the patience of my young readers as how many of them will reach up to the last paragraph of this article is really uncertain to me.

References

- COLMAN, A.M 2008. (Ed).Oxford Dictionary of Psychology, New Delhi: Oxford University Press.
- COOPER, H.M. 1997. Statistically combining independent studies: A meat-analysis of sex differences in conformity research. *Journal of Personality and Social Psychology*, 37, 131-146.
- COOPER, H.M 1982. Scientific guidelines for conducting integrative research reviews. *Review of Educational Research*, 52,291-302.
- COOPER, H.M 1988.Organizing knowledge syntheses A taxonomy of literature reviews. *Knowledge in society*, 1,104-126.
- COOPS, H.M. 1989. Integrating research: A guide for literature reviews. Nadsbry Pask: Sage.
- GLASS, G.V. 1976. Primary, Secondary and meta-analysis of research. *Educational researches*, 5, 3-8.
- HEDGES, L.V. & OLKIN, I. 1980. Vote-counting methods in research synthesis. *Psychological Bulletins*, 88, 359-369.
- HEDGES, L.V. & OLKIN, I 1985. Statistical methods for meta-analysis. Orlando: Academic Press.
- ROSENTHAL, R. 1978. Combining results of independent studies. *Psychological Bulletin* 85, 185-93.
- ROSENTHAL, R 1979. The "file-drawer problem" and tolerance for null results. *Psychological Bulletin*, 86, 638-641.
- STRIKE, K & POSNER, G 1983. Types of syntheses and their criteria. In S. Ward and L. Reed (Eds). *Knowledge structure and use. Implications for synthesis and interrelation* (pp 343-361). Philadelphia: Temple University Press.
- WOLF, F.W. 1986. Meta-analysis: Quantitative methods for research synthesis. Beverly Hills Ch. Sage.

Socio-Economic Background of Muslim Students at the Post-Graduate Level of Education : A case study of Calcutta University

Md. Kutubuddin Halder*

Abstract: *The research is conducted to study the demographic features, income, education and occupational background of post graduate Muslim students and problems faced by them. Purposive and stratified random sampling techniques are adopted 163 post-graduate students are taken randomly. Among them 71 belong to Muslim community, 48 SC/ST and 44 General Hindu Community Student admission record of the university and a Schedule on socio-economic conditions of post-graduate students of Calcutta University are used as tools For quantitative analysis of data, percentage, mean, standard deviation and chi-square test are applied and qualitative analysis is done. The study found that about 60% post graduate Muslims students are first generation learner in terms of higher education. The creamy layer of Muslim community prefers modern education that is Science and Social Science. Differences of the fathers' occupation of two groups: Students of Arabic & Persian and Urdu Departments (APU) and other departments (OH) is not significant. The economic condition of Muslim students is significantly poor among the three groups (Muslim, Schedule Caste/Schedule Tribe and General Hindu). Again, it is slightly better for the students of OH departments than the students of APU departments. There are more or less same problems faced by the students of different communities to complete their post-graduate course. Only exception is that, out of 71 five Muslim students opined that they couldn't attend the two class hours of Friday as they offer to pray at Mosque. The problems are distance from residence to university; mode of transport; language- medium of instruction; inability to buy text, reference book and other learning instruments due to financial constraints; lack of suitable environment at home for the study such as, having no electrical facilities or if there are electricity facilities but voltage is low, load shedding, lack of separate study room facilities, taking care of ailing old family members; etc. This study suggests that this process of social mobility of Muslim population must be hastened so that socio-economic development of Muslim population is speeded up.*

Keywords: Socio-economic background, First Generation Muslim in Higher education, Muslim student

Introduction

In any society, education plays an important role in training, development and allocation of its manpower resources. Islam highly recognizes the values of education. Islam has always laid great stress on the necessity of knowledge. The very first words which the Quran reveals are associated with learning [Quran, Chapter – 96, Verse – 19], and the very first thing which Adam was made to do was to learn the 'Names' of God (Quran, Chapter 2, Verse 31), which gave him superiority over the angels. There are a number of Quranic Verses which stress on the importance of learning and the high station i.e 'those possessed knowledge' are accorded by God. The Prophet of Islam himself has decreed knowledge to be obligatory upon every Muslim male and female and has exhorted his followers to seek learning, even if it be in China – that is to say, to go to a great length. Although, in India in early British Period the development of education particularly at higher level among Muslims left much to be

* Reader, Department of Education, Calcutta University.

desired, but in 1902 to 1921, the education of Muslims made a steady and all round progress during this period and very good progress between 1921 and 1937 (Nurulla and Naik; 1951). After independence, the Constitution of India contains various provisions for the protection and development of minorities, for instance, Article 30 which provides the right to minorities to establish and administer educational institution, Article 29 which protects minorities' right to conserve their language, scripts or culture. Besides these, Articles 15, 16, 25, 26, 347, 350, 350 (A), and 350 (B) are some of the special constitutional safeguards for minorities. It is also true that after independence there was a change of attitude with regard to the role of higher education. Universities are dwelling houses of humanism, idealism and tolerance with respects. In the words of Pandit Jaharlal Nehru, "Universities stand for democracy, nationalism, humanism, adventure of new ideas, tolerance, reason and truth". Welfare and betterment of humanity is the ultimate goal of university education. Higher education not only produce a number of national level leaders particularly in the field of political, administrative, trade, industries and agriculture but also invents and develops new knowledge and society. The National Knowledge Commission (NKC) was constituted on 13th June 2005 as a high level advisory body to the Prime Minister of India. The vision for NKC was articulated by Dr. Monmohan Singh, Prime Minister of India, in the following words: *the time has come to create a second wave of institution building, and of excellence in the fields of education, research and capability building*. To attain the vision, higher education should be provided for a major portion of relevant age group of population.

The Ministry of Home Affairs has identified Muslims and New Buddhists as educationally backward at the national level. Unfortunately, in India a significant proportion of relevant age-group population still remain deprived from the benefits of higher education, and the Muslims comprise an important category of deprived community. Gross Enrolment Ratio of Higher Education in India is only 9.07% and it varies from state to states, community to community (Selected Educational Statistics, 2007). Only about one out of twenty students is a Muslim, as against the population proportion of every eighth person is a Muslim. About 667.23 crore people live on the planet. Out of this, above one fifth are Muslims. India is home to 17% of the world's total population accommodated in an area which is 2.4% of the world's total area. The country has rich cultural heritage. It has pluralistic nature in society. Multi-religiosity is one of the major cultural features in India. Five religious minorities, Muslims, Christians, Sikhs, Buddhists and Zoroastrians have been notified as minorities as per the provision of the National Commission of Minorities Act of 1992. These communities

constitute about 18.4% of country's population. The Muslims constitute the second largest religious community. The 2001 census enumerated India's Muslim population at over 138 million. About four year back, in 2005, the United Progressive Alliance Government set up a high level committee to prepare a report (popularly known as Sachar Report) on social, economical and educational status of Muslim community of India. The Committee analyzes census data of 2001 and pointed out in their report published in 2006 that while only about 7% of the population aged 20 years and above is graduates or hold diplomas, this proportion is less than 4% amongst Muslims. Besides, those having technical education at the appropriate ages (18 years and above) are as low as one per cent and amongst Muslim, that is almost non-existent. The Committee also found only one out of the 25 undergraduate students and one out of 50 post graduate students are Muslim in premier colleges. Thorat, S. pointed out that the Gross Enrolment Ratio (GER) in higher education of SC, ST and OBC is lower as compared with the general Hindu population. The GER is lowest for ST, followed by SC and OBC. He said that it is also necessary to mention that SC/ST/OBC from other religion such as Muslim, Christian and Sikh religion also suffered from lower access to higher education as compared with their higher caste counter part from these religions. In general, the SC Buddhist and SC Christian seem to be doing better as compared with their Hindu, Muslim and Sikh counterpart. In general the GER is higher for the persons belonging to Jainism (57%) followed by Christians (27.29%), Sikh/Buddhist (15%), Hindus (13.47%) and Muslims (8.19%). Thus, the GER is the lowest for the Muslim (Thorat, S. 2006).

In West Bengal above one fourth of total population are Muslims and Calcutta University is situated in this state. This university is not only a reputed higher education institution, it has historical importance. It has been holding glorious academic flag. It is the first Indian Modern University established in 1857 on the direction of Wood's Despatch (1854) to conduct examination and confer the degree following the model of London University. The establishment of the University of Calcutta was a defining event in the biography of the Indian nation. The University's history is synonymous with the introduction and expansion of modern university education in our country. The university was one of the initial sites for the meeting of the East and the West. It was, and remains, till today, one of the major channels for the spread of higher education in the country. It played a catalytic role in the emergence of a modern historical understanding of the India's past, and in developing modern Indian science and technology (Das, S, 2007). The university presently has as many as 68 post-graduate departments grouped into 8 Council of Post-Graduate Faculties which

cover almost all areas of discipline i.e. Arts, Commerce, Management, Science including Medical, Technology, Law, etc. A large number of courses are offered every year by these faculties. Most of the departments conduct teaching as well as research. But there is a few numbers of students in the university who belong to Muslim community. Not only that, most of the post graduate level Muslim students concentrated only on two departments namely Arabic & Persian Department and Urdu Department. It may have so many reasons but the researcher is interested to know the economic, educational and occupational background of post graduate level Muslim students, the percentages of first generation Muslim students in higher education and what type of problems are faced by them to complete the higher education.

While reviewing the various studies, the investigator found that some researches have been done by the researchers in India and abroad in the field of Muslim and their education particularly at higher level. Some studies conducted by Afshar (1989), Brah and Shaw (1992), Brah (1993), Basit (1997), Modood et al. (1997), Ahmad (2001), Dale et al. (2002), Ahmad et al. (2003), Tariq M. (2006), Tyrer, D and Ahmad, F (2006) are reviewed. These studies revealed that there were many barriers to Muslim specifically women for entering higher education. In India, the socio-economic backwardness of the Muslim and problems of their development and change have been pointed out by some scholars (Singh, 1973 Ahmed: 1983; Khan, 1984; Siddiqui 1984 Mandal, 1985 and Peer, 1991). There is an opinion among the scholars that the modernization in Muslim society has sustained a setback due to various factor of which illiteracy and poor educational status are the most significant. Some studies are done in the post nineties (Zafar, A. 1992; Salam, S.N. 1996; Siddique, M.M. 1995; Razzack, A.1998; Dubey, S.N. et al. 1999). The studies are mainly related in the areas of social structure, social stratification, political behaviour, and religious practices. Thakur, R. N. (2007) found that education among the Muslim women was neglected. But the same did not apply to the Christians, the Sikhs or the Parsis. Financial problems also cropped up due to poverty and lack of own resources/funds in minority managed educational institutions. Jabeen, J.A. (1966) conducted a study on the attitude of Muslim parents belonging to different economic classes towards the education of Muslim women. Khatoon, T. (1996) observed that female Muslim students had slightly less positive attitudes but they did not differ significantly from their Hindu counterpart. Difference in the mean percentages of marks of male Muslim and male Hindu students and that between female Muslim and female Hindu students were significant. Lesser percentage of Muslim students had positive attitude

towards education than Hindu students. Nehvi, B.A. and Lidho, M.L. (1996) found that the difference between the urban and rural educated Muslims as regards attitude towards modernization and traditionalism was significant. The high socio-economic group (urban subjects) had shown a progressive attitude towards modernization as compared to low socio-economic status urban group. Comparing the attitude scores of high socio-economic status urban group and high socio-economic status rural group-, it was found that the high socio-economic status (HSES) urban group was progressive towards modernization and change as compared to rural high socio-economic status rural group. The differences between low socio-economic status (LSES) rural had been found to be significant. Low socio-economic status urban group had a positive attitude towards modernization as compared to low SES rural. Zawahirullah M. H. (2003) examined the socio-economic development of Muslim minority community in India and observed that the Minority Muslim Community in India suffers from substantially greater socio- economic deprivation than the majority community. Qasmi, M.B. (2005) mentioned that there are four principal problems of Indian Muslims. The first problem is the absence of true Muslim leadership in post-partition period till date. The second and third problems are lack of security and low income of Muslim people respectively. The fourth and most painful problem of the Muslim Indians is discriminatory attitude of the majority community toward them in all walks of life. Muslims, in the words of one analyst, "suffer double discrimination, by virtue of being Muslim and poor" (Frontline : Volume 21-Issue 23, Nov 2004). Bhaumik S. K. and Chakrabarty M. (2009) studied the education and economic deprivation of Muslims. Radhakrishnan P. (2006) concluded that the problems of Indian education centers on financing, equity and excellence in access. Asadullah, M. N. et al.(2009) studied social divisions in school participation and attainment in India and observed that even after controlling for socio-economic conditions and parental background, Muslim children were found to be significantly disadvantaged in terms of school enrolment and grade completion in 1983. By 2004, whilst these gaps have been narrowed, significant gaps remain, particularly in grade completion; the Muslim disadvantage in India today is greater than observed gender gap in school completion.

Objectives

1. To find out the economic, educational and occupational backgrounds of Muslim students at post-graduate level of the Calcutta University.

2. To compare the socio-economic back ground of Muslim students of the two groups, i.e., (a) those studying in Arabic & Persian and Urdu departments and (b) other departments of the Calcutta University.
3. To find out the problems faced by the Muslim students at post-graduate level of education to complete the course.
4. To compare the socio-economic background of post-graduate students belonging to Muslim, Schedule Caste/Schedule Tribe and General Hindu Communities.

Universe of the study

All post graduate level Muslim students of the Calcutta University will be taken as universe of the study.

Sample

Purposive stratified random sampling technique is adopted for the study. There are 66 departments under the 14 campuses of the University of Calcutta. Out of these 14, four are in major campuses. These are Asutosh Siksha Prangan (commonly known as College Street Campus), Rashbehari Siksha Prangan (commonly known as Rajabazar Science College Campus), Taraknath Palit Siksha Prangan (commonly as Ballygunge Science College Campus) and Sahid Kshudiram Siksha Prangan (known as Alipore Campus). These four campuses are scattered throughout the city of Kolkata. 16 departments are randomly selected from the four major campuses. Besides these sixteen, two departments namely Arabic & Persian and Urdu are taken purposely. On the basis of field situation i.e. availability of different socio-religious community students, 163 post-graduate students are taken randomly in field situation. Out of the 163, 71 (47 Arabic & Persian and Urdu Departments and 24 other departments) students belong to Muslim community, 48 belong to SC/ST and 44 belong to General Hindu Community. The sample size is given in Table 1.

Table 1: Sample size of the study

| Socio-religious community | Arabic & Persian and Urdu Departments | Other departments (Bengali, Hindi, History, Islamic History & Culture, ancient Indian History & Culture, Philosophy, Political Science, Museology, Education, Horticulture, Zoology, Geology, Applied Mathematics, Chemical Engineering, Geography) | Total |
|---------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Muslim | 47 | 24 | 71 |
| SC/ST | — | 48 | 48 |
| General Hindu | — | 44 | 44 |
| Total | 47 | 116 | 163 |

Tools

With a view to achieve the various objectives of the present study mentioned, two tools were used which are described below in brief.

1. Student admission record which was used for identifying the socio-religious community. The investigator collected the names and their socio-religious community from Student Admission Record.
2. Schedule on socio-economic condition of post-graduate students of Calcutta University which was prepared by the researcher in consultation with the schedule prepared by Professor Sudhansu Bhusan, NUPEA and finalized on the basis of the result of pilot study and opinions of experts. The schedule consisted of 23 items. It contains information regarding level of income of the family of students, parent's education level and their occupation. Demographic information like religion, caste, type of family, mother tongue was also included. Permanent address, type of living place at present, distance from permanent residence to concerned university department, distance from present living places to such university department, are covered in this schedule. Beside these, problems of students to complete their post-graduate course is also recorded in this schedule.

Analysis of data

For quantitative analysis of data, percentage, mean, standard deviation and chi-square test were applied and qualitative analysis was done on the basis of observation while collecting data. Data also presented graphically. The chi-square test was used to compare among different socio-religious group (Muslim, SC/ST and General Hindu/ students of Arabic & Persian/Urdu departments and other departments) in relation to the socio-economic background of the students. Using a two-way classification with k and l classes the formula

$$\text{used was } \chi^2 = \sum \left[\frac{(|f_0 - f_e| - 0.5)^2}{f_e} \right]$$

where f_0 = observed frequency in a given cell

f_e = expected frequency in the given cell

= product of the marginal frequency divided by the total number of observations.

Findings of the study

The findings based on the data collected with the use of the tools mentioned in earlier. In this

study the variables- Demographic characteristics, status of income, education and occupation and problems faced by the post-graduate students are measured.

Demographic characteristics of post-graduate students of the Calcutta University

The data were collected about age of the students of different socio religious communities. It is observed that the age range varies from 20 to 33 years and the three groups- Muslim, SC/ST and General Hindu are homogeneous as per age is concerned and the two categories of Muslim students (Arabic & Persian/Urdu departments and other department's Muslim students) are also homogeneous in age. Mean and SD of the age (year) of students in different socio-religious community is given in table 2.

Table 2: Mean and SD of age (year) of the students

| Category | Muslim | | | SC/ST | General Hindu | All |
|----------|-----------------------------------|--------------------|-------|-------|---------------|-------|
| | Arabic & Persian/Urdu departments | Other department's | All | | | |
| Mean | 22.34 | 22.11 | 22.28 | 22 | 22.25 | 22.19 |
| S D | 1.809 | 1.46 | 1.69 | 1.37 | 1.98 | 1.69 |

It is also found from the study that most of the students belong to nuclear family irrespective of socio-religious community. 70% of Muslim, 60% of Schedule Caste/Schedule Tribe and 66% of General Hindu students come from nuclear family. Where 30% Muslim, 35% Schedule Caste/Schedule Tribe, 32% general Hindu students belong to joint family. In case of extended family only two, out of 48 SC/ST (4.17%) and only one from general Hindu (2.27%) students belong to such family.

Table 3: Permanent residence of the students – community-wise

| Community | Category | Kolkata | Neighbouring districts | Total |
|---------------|-----------------------------------|------------|------------------------|----------|
| Muslim | Arabic & Persian/Urdu departments | 42 (89.36) | 5 (10.64) | 47(100) |
| | Other department's | 14 (58.33) | 20(41.67) | 24 (100) |
| | All | 56 (78.87) | 15 (21.13) | 71 (100) |
| SC/ST | | 15 (31.91) | 32 (68.04) | 47 (100) |
| General Hindu | | 19 (43.18) | 25 (56.82) | 44 (100) |

Percentages are given in the brackets

Table 3 depicts the permanent residence of the students. It shows that the percentage of Muslim students residing in Kolkata is maximum (79%) followed by general Hindu (43%) and Schedule Caste/Schedule Tribe 32%. Above 68% of SC/ST and 56.82% of General Hindu student living in neighbourhood district namely Howrah, Hooghly, North 24 Parganas, South 24 Parganas and Midnapore. In the sample groups of SC/ST community, one ST student permanently lives Sikkim. It is also observed that among the Muslim student 89% of Arabic and Persian/Urdu department live in Kolkata with only 10.64% live in neighbouring districts. But in case of Muslim students of other department 58.33% students live in Kolkata and near about 42% live in neighbouring districts. According to the Census 2001, in West Bengal 25.2% population are Muslim and about 3% are Urdu speaking Muslims. It is fact that non Bengali speaking Muslims are concentrated in urban area. Majority of Urdu speaking Muslims live in Kolkata. So it may be said generally that the demographic feature of West Bengal reflected on higher education. For this reason, the present study found the percentage of Muslim Students residing in kolkata is maximum as our sample of student is maximum in Arabic& Persian and Urdu Departments (47, out of 71 students).

Table 4: Types Students' Accommodation: Community-wise

| Accommodation | Number of students in different communities | | | | |
|-------------------|---------------------------------------------|--------------------|------------|------------|---------------|
| | Muslim | | | SC/ST | General Hindu |
| | Arabic & Persian/Urdu departments | Other department's | All | | |
| Own house | 9 (19.15) | 15 (62.50) | 24 (33.80) | 33 (70.21) | 35 (79.55) |
| Rented house | 11 (23.40) | 5 (20.83) | 16 (22.54) | 9 (19.15) | 7 (15.91) |
| Private hostel | 1 (2.13) | 1 (4.17) | 2 (2.82) | 0 | 0 |
| University hostel | 17 (36.17) | 3 (12.50) | 20 (28.17) | 6 (12.77) | 2 (4.55) |
| Wakf Board hostel | 8 (17.02) | 0 | 8 (11.27) | 0 | 0 |
| Paying guest | 1 (2.13) | 0 | 1 (1.41) | 0 | 0 |
| Total | 47 (100) | 24 (100) | 71 (100) | 47 (100) | 44 (100) |

Percentages are given in the brackets

Table 4 shows the present living place of students of different socio-religious community. About 40% of the Muslim students have the opportunity to live in university hostel or Wakf-board hostel whereas Schedule Caste/Schedule Tribe and General Hindu community students get the opportunity as 13% and 4.55% respectively. However, 80% General Hindu community student and 70% ST/ST students come to University from their own house whereas 34% Muslim students come to the university from their own house. It may have two reasons. First, the percentage of Muslim to total student of the University are very poor, such as, in the academic session 2007-08, only 27 (4.24%) out of 636 students in seven departments namely Anthropology, Applied Geology, Geography, Zoology, Bengali, Islamic History and Culture and Education are Muslim. Secondly, the provision has been made in wakf board Hostel to help the Muslim students to continue with their higher studies which are not facilitated for the students belonging to other communities. However, the hostel facilities provided by the wakf board are mostly utilized by the Arabic and Persian/Urdu department's students rather than Muslim students of other departments.

Table 5: Distance from the University to permanent residence of students of different communities

| Distance (km) | Number of students in different communities | | | | |
|---------------|---------------------------------------------|--------------------|------------|------------|---------------|
| | Muslim | | | SC/ST | General Hindu |
| | Arabic & Persian/Urdu departments | Other department's | All | | |
| Less than 19 | 8 (17.02) | 3 (12.50) | 11 (15.49) | 2 (4.17) | 1 (2.27) |
| 20-49 | 8 (17.02) | 7 (29.17) | 15 (21.13) | 15 (31.25) | 23 (52.27) |
| 50-99 | 7 (14.89) | 3 (12.50) | 10 (14.08) | 15 (31.25) | 15 (34.09) |
| 100-199 | 15 (31.91) | 8 (33.33) | 23 (32.39) | 7 (14.58) | 3 (6.82) |
| 200-299 | 4 (8.51) | 0 | 4 (5.63) | 5 (10.42) | 0 |
| 300 and above | 5 (10.64) | 3 (12.50) | 8 (11.27) | 4 (8.33) | 2 (4.55) |
| Total | 47 (100) | 24 (100) | 71 (100) | 48 (100) | 44 (100) |

Distance from permanent residence of the students of different socio-economic communities

to the university is given in table 5. It is observed from the table that the permanent residence of 17% Muslim students is above 200 kms far from the University of Calcutta. In case of SC/ST the number of students is 9(18.75%) and 4.55% for General Hindu community.

Table 6: Distance from the University to Students' Accommodation of different communities

| Distance (km) | Number of students in different communities | | | | |
|------------------|---------------------------------------------|-----------------------|------------|------------|------------------|
| | Muslim | | | SC/ST | General Hindu |
| | Arabic & Persian/Urdu departments | Other department's | All | | |
| 1 | 3 (6.38) | 0 | 3 (4.23) | 0 | 0 |
| 2 | 9 (19.15) | 0 | 9 (12.68) | 1 (2.08) | 0 |
| 5 | 15 (31.91) | 8 (33.33) | 23 (32.39) | 5 (10.42) | 3 (6.82) |
| 10 | 1 (2.13) | 0 | 1 (1.41) | 0 | 0 |
| 15 | 1 (2.13) | 0 | 1 (1.41) | 0 | 0 |
| 20 | 12 (25.53) | 7 (29.17) | 19 (26.76) | 21 (43.75) | 24 (54.55) |
| 50 | 2 (4.26) | 2 (8.33) | 4 (5.63) | 14 (29.17) | 14 (31.82) |
| 80 | 0 | 1 (4.17) | 1 (1.41) | 0 | 0 |
| 100 | 3 (6.38) | 6 (25) | 9 (12.68) | 5 (10.42) | 3 (6.82) |
| 120 | 1 (2.13) | 0 | 1 (1.41) | 2 (4.17) | 0 |
| Total | 47 (100) | 24 (100) | 71 (100) | 48 (100) | 44 (100) |

Distance from the university to present living place students of different communities i.e. student of Muslim, Scheduled Caste and Scheduled Tribe and General Hindu is given in Table 6. It is found from the study that most of the students of the three communities travel 20 kms to attend their classes. However, some students of (5.63%) Muslims, Schedule Caste/Schedule Tribe (29%) General Hindus (31%) are to travel 50 kms to attend their university classes. It is also found from the study that out of 24 Muslim students of other department group, one-fourth students (25%) travel about 100 kms everyday.

Educational background of the parents of post-graduate students of the Calcutta University

By educational background we mean the educational qualification of the fathers and mothers of the respondents. Table 7 and Table 8 show the level of education of the parents. Table 7 reveals educational status of parents of post graduate students of different socio-religious community. Education level of Fathers and Mothers of Muslim students of PG level in two categories is shown in Table 8.

Table 7: Educational level of parents of P.G. students belonging to different socio-religious communities

| Father Educational Level | Categories | Mother education level | | | | | | Total |
|----------------------------|---------------|------------------------|---------------------------|---------------------|----------------------------|----------|---------------|-------|
| | | Illiterate | Lower Secondary Education | Secondary Education | Higher Secondary Education | Graduate | Post Graduate | |
| Illiterate | Muslim | 3 | 1 | - | - | - | - | 4 |
| | SC/ST | 1 | 1 | - | - | - | - | 2 |
| | General Hindu | 1 | - | - | - | - | - | 1 |
| Lower Secondary Education | Muslim | 8 | 20 | - | - | - | - | 28 |
| | SC/ST | 1 | 9 | - | - | - | - | 10 |
| | General Hindu | - | 4 | 1 | - | - | - | 5 |
| Secondary Education | Muslim | - | 5 | 1 | - | 1 | - | 7 |
| | SC/ST | - | 3 | 1 | 1 | - | - | 5 |
| | General Hindu | - | 2 | 4 | - | - | - | 6 |
| Higher Secondary Education | Muslim | - | 1 | 3 | 1 | 1 | - | 6 |
| | SC/ST | 1 | 3 | 3 | 6 | - | - | 13 |
| | General Hindu | - | 1 | 4 | 1 | 1 | - | 7 |
| Graduate | Muslim | - | 6 | 4 | 2 | 2 | 2 | 16 |
| | SC/ST | - | 1 | 2 | 6 | 4 | - | 13 |
| | General Hindu | - | 1 | 2 | 4 | 10 | - | 17 |
| Post Graduate | Muslim | - | 4 | 4 | 1 | 1 | - | 10 |
| | SC/ST | - | - | - | 1 | 1 | 2 | 4 |
| | General Hindu | - | 1 | - | - | 4 | 1 | 6 |
| M Phil/ Ph. D | Muslim | - | - | - | - | 1 | 0 | 1 |
| | SC/ST | - | - | - | - | - | 2 | 2 |
| | General Hindu | - | - | - | - | - | - | - |
| Total | Muslim | 11 | 37 | 12 | 4 | 5 | 2 | 71 |
| | SC/ST | 3 | 17 | 6 | 14 | 6 | 2 | 48 |
| | General Hindu | 1 | 9 | 11 | 5 | 15 | 3 | 44 |

It is revealed from the study that out of 71 Muslim students' parents- both father and mother, 32 (45.07%) are illiterate or have less than secondary education. In case of SC/ST students the number is comparatively low (25%). It is also true for general Hindu community. Out of 44, five (11.36%) parents of students of general Hindu community education level are either

illiterate or less than secondary education. It is also found that in case of Muslim community out of 71 fathers, 27 (38.02%) are at least graduate, for mother the figure is 9.85%. It is also revealed that two out of 71 students fathers' education level is less than graduate but mother's education level is graduate and near-about 60% (42 out of 71 students) post graduate Muslims students are first generation learner whose parents- both father and mother never attended to higher education that is at least graduate level. So it may be concluded that the children of uneducated Muslim family is coming to attend the higher education which is positive for the development of the society particularly in Muslim community.

Table 8: Education level of Fathers and Mothers of Muslim students of PG level in two categories

| Education level | Father | | Mother | |
|-------------------------------|-------------------------------------|-------------------|-------------------------------------|-------------------|
| | Arabic & Persian / Urdu departments | Other departments | Arabic & Persian / Urdu departments | Other departments |
| Illiterate | 4 (8.51) | 0 | 9 (19.15) | 2 (8.3) |
| Less than Secondary Education | 24 (51.06) | 4 (16.67) | 30 (63.83) | 8 (33.33) |
| Secondary Education | 3 (6.38) | 4 (16.67) | 4 (8.51) | 8 (33.33) |
| Higher Secondary | 1 (2.13) | 5 (20.83) | 1 (2.13) | 3 (12.50) |
| Graduate | 8 (17.02) | 8 (33.33) | 3 (6.38) | 1 (4.17) |
| Post-graduate | 7 (14.89) | 3 (12.50) | 0 | 2 (8.33) |
| Total | 47 (100) | 24 (100) | 47 (100) | 24 (100) |
| Chi-Square Values | 35.60* | | 16.69* | |

Percentages are given in the brackets

* Significant

Education level of Fathers and Mothers of Muslim students of PG level in two categories is shown in Table 8. It is evident that in case of students of Arabic & Persian /Urdu departments, more than 50% of the fathers' education level is less than the secondary education and 8.51% are illiterate, whereas in case of mother this figure is about 64 %. Dramatically different result is obtained from other departments' students. However, the

fathers of the other departments' students are not so poorly qualified (secondary education level-16.6%, graduation-33.3%). From this finding it can be concluded that the parents of the students of other department are comparatively more qualified than that of Arabic and Persian/Urdu departments students.

In terms of level of education background of parents, the difference the Arabic and Persian/Urdu departments and other department's i.e. science and social science groups have become apparent. The parents of the students of other departments are educationally better than that of the parents of the Arabic and Persian/Urdu department's students. For comparison the education level of fathers between two groups χ^2 value was calculated ($\chi^2_{obs} = 35.60 > \chi^2_{0.01,5} = 15.08$). The χ^2 value is significant. So, it is statistically proved that the fathers' education level is significantly better for the students of Science and Social science subjects than the students of Arabic and Persian /Urdu subjects. Most importantly the mothers of other groups are comparatively advanced than that of the Arabic and Persian/Urdu departments. The χ^2 value for comparing the educational backgrounds of mothers between two groups is significant at 0.01 levels ($\chi^2_{obs} = 16.69 > \chi^2_{0.01,5} = 15.08$). So, it may be concluded that the creamy layer of Muslim community in terms of education prefer for modern education that is Science and Social Science.

Occupation of the parents of post-graduate students of the Calcutta University

Table 9: Occupations of fathers of students belonging to different socio-religious communities

| Occupation | Number of students in different communities | | | | |
|---------------------|---------------------------------------------|--------------------|-----------|-----------|---------------|
| | Muslim | | | SC/ST | General Hindu |
| | Arabic & Persian/Urdu departments | Other department's | All | | |
| Unemployed | 4 (8.51) | 3 (12.50) | 7(9.86) | 3(6.25) | 2(4.55) |
| Casual worker | 1 (2.13) | 1 (4.17) | 3(4.23) | 3(6.25) | 3(6.82) |
| Farmer | 12 (25.53) | 3 (12.50) | 15(21.13) | 7(14.58) | 1(2.27) |
| Self-employee | 7 (14.89) | 6 (25.00) | 13(18.31) | 8(16.67) | 8(18.18) |
| Private employee | 5 (10.64) | 1 (4.17) | 6(8.45) | 3(6.25) | 9(20.45) |
| Government employee | 9 (19.15) | 7 (29.17) | 16(22.54) | 18(37.50) | 17(38.64) |
| Others | 9 (19.15) | 3 (12.5) | 11(15.49) | 6(12.50) | 4(9.09) |
| Total | 47 (100) | 24 (100) | 71 (100) | 48 (100) | 44 (100) |
| Chi-Square Value | 1.88ns | | 12.55ns | | |

ns- Not significant at 0.05 level

It is found from the study that the fathers of the Muslim students are mostly Government employees. Out of 71, 16 are government employees (22.54%), 15 are farmers (21.13%) and 13 are self employed (18.31%). Among them 7 are unemployed (Table 9). In case of the mothers 26 out of 71 are house wives, only 2 are government employees. When the occupations of the fathers of the two categories of the Muslim students are analyzed, there is not much difference in different types of occupation. Only exception is that the number of

farmer is higher (25.53%) than the students of other departments (12.5%). The number of government employees as father of students of other department is larger than the Arabic and Persian/Urdu department's students (29.17% of other departments, 19.15% of Arabic and Persian/Urdu departments).

Table 10: Occupations of mothers of students belonging to different socio-religious communities

| Occupation | Number of students in different communities | | | | |
|---------------------|---------------------------------------------|--------------------|-----------|-----------|---------------|
| | Muslim | | | SC/ST | General Hindu |
| | Arabic & Persian/Urdu departments | Other department's | All | | |
| Unemployment | 16(34.04) | 14(58.33) | 30(42.25) | 28(58.33) | 36(81.82) |
| Casual worker | 1(2.13) | 1(4.17) | 2(2.82) | 2(4.17) | 0(0) |
| Cultivator | 1(2.13) | 0(0) | 1(1.41) | 0(0) | 0(0) |
| Self-employee | 0(0) | 1(4.17) | 1(1.41) | 0(0) | 1(2.27) |
| Private employee | 1(2.13) | 1(4.17) | 2(2.82) | 2(4.17) | 0(0) |
| Government employee | 2(4.26) | 0(0) | 2(2.82) | 3(6.25) | 3(6.82) |
| House wife | 22(46.81) | 4(16.67) | 26(36.62) | 10(20.83) | 3(6.82) |
| Others | 4(8.51) | 3(12.5) | 7(9.86) | 3(6.25) | 1(2.27) |
| Total | 47 (100) | 24 (100) | 71 (100) | 48 (100) | 44 (100) |
| Chi-Square Values | 5.28ns | | 18.84ns | | |

ns- Not significant at 0.5 level

As far as type of occupation is concerned, by comparison has been made in respect of the occupation of two categories father of students. One is students of Arabic, Persian and Urdu subjects. Second category is the students of Science and Social Science subjects. The obtained Chi-Square value is not significant. So, there is no significant difference in the nature of the occupation of the parents of the two groups of Muslim students. The obtained chi-square value for comparison of parents' occupation among three communities – Muslim, SC and General Hindu are not significant.

Economic condition of the family of post-graduate students of the Calcutta University: community-wise

Table 11: Family income level of students of different socio-religious communities

| Annual Income (Rs.) | Number of students in different communities | | | | |
|------------------------------|---------------------------------------------|-----------------------------------|------------|------------|------------------|
| | Muslim | | | SC/ST | General Hindu |
| | Arabic & Persian/Urdu departments | Other departments ⁷ | All | | |
| (a)Upto 5,0000 | 10 (21.28) | 0 | 10 (14.08) | 4 (8.33) | 1 (2.27) |
| (b)5,0001- below 1 lakh | 28 (59.57) | 15 (62.5) | 43 (60.56) | 35 (72.92) | 21 (47.73) |
| (c)1 lakh – below 3 lakh | 8 (17.02) | 7 (29.17) | 15 (21.13) | 7 (14.58) | 16 (36.36) |
| (d) 3 lakh – below 5 lakh | 1 (2.13) | 2 (8.33) | 3 (4.23) | 2 (4.17) | 6 (13.64) |
| Total | 47 (100) | 24 (100) | 71 (100) | 48 (100) | 44 (100) |
| Chi-Square Values | 8.08* | | | 16.17* | |

Percentages are given in the brackets

* Significant at 0.5 level

From Table 11 it is found that the economic condition of Muslim and Schedule Caste/Schedule Tribe students are not very different in the three categories, that is (b), (c) and (d) but in case of (a) category the less number of Schedule Caste/Schedule Tribe student (8.33%) earn less than 50,000/- than the Muslim student (14.08%). This figure is even less for General Hindu (2.27%). It may be concluded that the Muslim is economically poorest of the three communities (fig. 1).

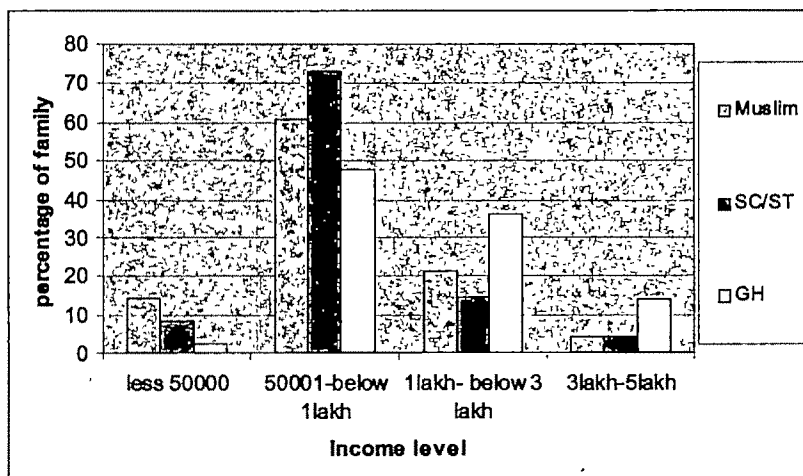


Fig. 1: Graph showing income level of Muslim family

Among the Muslim, the financial conditions of the students of other departments are comparatively better than that of the Arabic and Persian/Urdu departments' student. Not a single respondent of other department earn less than Rs 50000 per year whereas 21.28% Arabic and Persian/Urdu departments' students earn less than Rs 50000. In other categories of income level (b),(c) and (d) the difference is not so pronounced. Though, the figures are consistently higher for other departments of students (fig. 2). It is interesting to know the answer of the question: "Is the economic condition of Muslim students of post-graduate level poor in comparison with other communities?" In this regard it is observed from the study that Muslim are in general comparatively economically poor than the other sub sample groups (Schedule Caste/Schedule Tribe and General Hindu). For the comparison of the economic condition of families among the student of Muslim, SC\ST and general Hindu communities, χ^2 value was calculated and the χ^2 value was significant at 0.05 levels. Therefore, it can be stated that the economic condition of Muslim students is significantly poor among the three groups. This finding is also supported by the study of Radhakrishnan P. (2006) and Sachar report (2006). Radhakrishnan P. (2006) concluded that the problems of Indian education centers on financing, equity and excellence in access. The two groups of Muslim students differed in term of their financial conditions. It is found that the students of science and social science department is slightly better in position in comparison with students of Arabic & Persian and Urdu departments and it is also statistically significant. From the above discussion it may be concluded that the Arabic and Persian/Urdu department's students, in general, come from poorer section of the community.

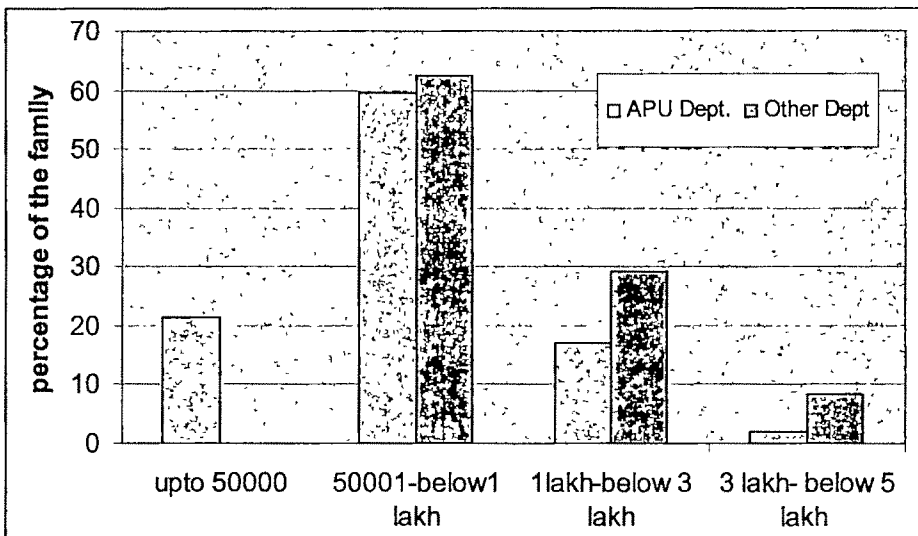


Fig. 2: Financial conditions of Muslim students of two categories

Problems faced by the Muslim student to complete higher education

To measure the problems faced by the Muslim student to complete higher education the researcher directly asked the students regarding the problem and indirectly framed items, viz what was the motivation for your preference to join this course? And what were motivating factors to you to complete higher education? The problems faced by the students are shown in Table 12 and first choice of the students of Arabic & Persian / Urdu departments and other department to join the course is given in Table 13 Motivating factors preferred by Muslim students to complete their post-graduate course is shown in table 14.

Table 12: Problems faced by the Muslim students

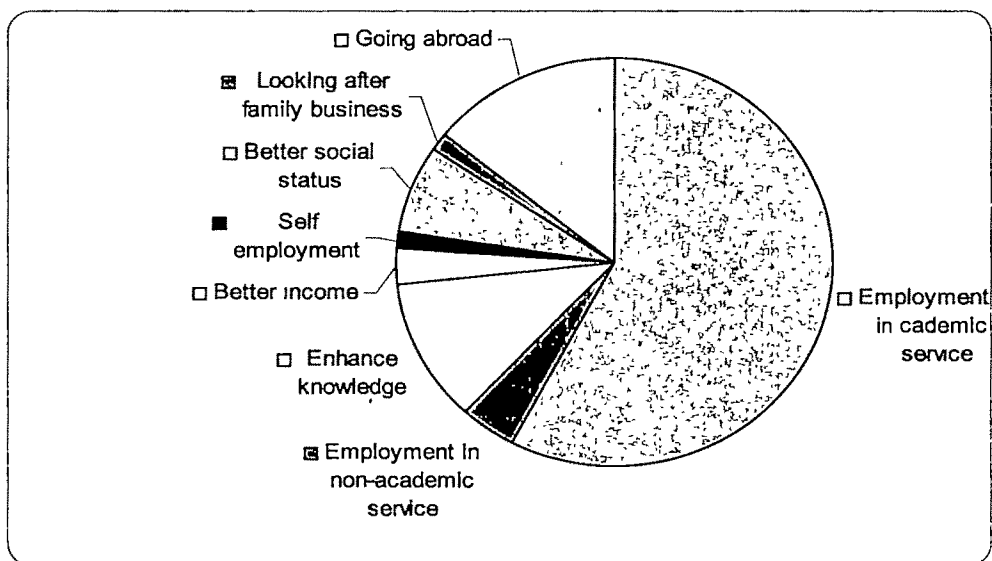
| Problems | %-age of students |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Distance from residence to university | 28.16 |
| Language, medium of instruction | 40.84 |
| Inability to buy text, reference book and other learning instruments due to financial constants. | 35.21 |
| Difficulty in understanding the subject mater in large classroom | 39.43 |
| Getting no academic helps from the family member | 14.08 |
| Force to do other house hold work augmenting meagre family income | 21.12 |
| Not much more time to study at home and library | 45.07 |
| Could not attend the two class hours due to pray <i>jumma namaj</i> of Friday | 7.07 |
| Lack of suitable environment at home to the study such as, do not have electrical facilities, there are electric facilities but voltage is low, load shedding, lack of separate study room facilities, take care of ailing old family members etc. | 35.21 |

Table 13: First choice as motivating factor of the Muslim students to join the course

| Motivating Factors | Number of students of Arabic & Persian /Urdu Departments | Number of students of other Departments |
|-----------------------------------------|----------------------------------------------------------|-----------------------------------------|
| Interest of the subjects | 12 (25.53) | 4 (16.67) |
| Familiar subject | 10 (21.28) | 6 (25.00) |
| Job opportunity | 9 (19.15) | 8(33.33) |
| Religious sentiment | 4 (8.51) | 0 |
| Earn Professional and Vocational Degree | 4 (8.51) | 3 (12.50) |
| Family Tradition | 3 (6.38) | 0 |
| Scoring Subject | 2 (4.26) | 2(8.33) |
| Easy Course | 3 (6.38) | 1(4.17) |
| Total | 47 (100.00) | 24(100.00) |

Table 14: Motivating factors of Muslim students to complete their post-graduate course

| Motivating Factors | Rank of preferences | | | | | | | |
|------------------------------------|---------------------|----|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Employment in academic service | 41 | 6 | 9 | 8 | 3 | 2 | 2 | 0 |
| Employment in non-academic service | 3 | 7 | 5 | 9 | 6 | 19 | 7 | 15 |
| Enhance knowledge | 8 | 23 | 9 | 11 | 12 | 5 | 1 | 2 |
| Better income | 2 | 11 | 21 | 6 | 9 | 15 | 5 | 2 |
| Self employment | 1 | 5 | 2 | 11 | 15 | 9 | 16 | 12 |
| Better social status | 5 | 6 | 9 | 8 | 14 | 8 | 10 | 11 |
| Looking after family business | 1 | 2 | 4 | 6 | 4 | 9 | 19 | 26 |
| Going abroad | 10 | 11 | 12 | 12 | 8 | 4 | 11 | 3 |
| Total No. of students | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |

**Fig. 3:** Pie-chart showing the first choice of students which motivated them to complete post graduate of course.

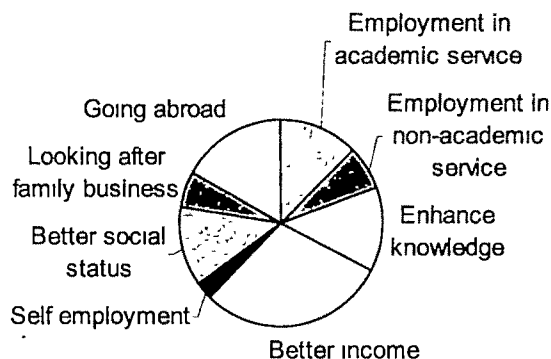


Fig. 4: Pie-chart showing the second choice of students which motivated them to complete post graduate of course.

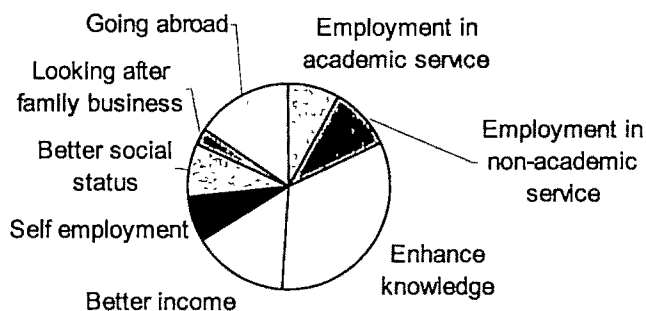


Fig. 5: Pie-chart depicting the third choice of students which motivated them to complete post graduate of course.

Motivating factors of Muslim students to complete their post-graduate course is shown in Table 14. It is observed from the table that most of the Muslim students want to get employment to academic service i.e. teacher in school, college or universities. Majority (41 out of 71) of students (58%) ranked as a first choice to be employed to academic service

(Fig.3) Second choice of maximum students (32.4%) is to enhance the knowledge (Fig.4). The third choice of maximum students (about one third) is better income (Fig.5). It is also found that 10 out of 71 students ranked as a first choice to go to foreign country (Fig.3). Now the researcher would like to know the answer of the question: what types of problems are faced by the Muslim students to complete the higher studies? It is observed from the study that distance from residence to university is one of the problems. Above one-fourth of the students face this problem. Near about half of the students opined that they do not get more time to study at home and library. It may be due to travel of long distance and engage household work augmenting meagre family income. It is also found that first choice of majority students to join the post graduate course was either job opportunity or familiar subject. Interesting result is found, seven out of 47 students took admission in Arabic & Persian / Urdu subject as it was their family tradition or religious sentiment (Table 13). In the context of the problem of women education Jehangir, K. N. (1991) mentioned in his study *Muslim Women in West Bengal: Socio- Economics and Political status* that the propagation of female education among the Muslims of West Bengal did not begin till the beginning of the twentieth century. The orthodox section of Muslim community had been always resisting their women's education in common schools. Conservative outlook and purdah are the two most commonly cited factors for Muslim women's educational backwardness. But the crux of the problem lies at a deeper level. He has seen that the respondent's place of residence is an important factor in determining the educational status of women, and the level of education is found to be higher among the urban population than the rural. Women who were educated beyond the primary level were asked 'Did you face any difficulties while going for higher education? It has been observed that the major difficulties faced by Muslim women were either of socio-cultural types or due to economic backwardness. Of the various difficulties mentioned by respondents, a few listed below: 1) Poor economic condition, 2) Early marriage, 3) Social opposition to sending girls to schools for higher education, 4) family unwillingness to allow grown-up girls to continue education, that is, strict observance of *purdah*, 5) Distance of school and college, 6) Burden of domestic chores. The present investigator would like to compare the problems faced by Muslim students with the students of SC/ST and General Hindu communities' students. It is found that there are more or less same problems faced by the students of different communities to complete their post-graduate course. Only exception that 5, out of 71 Muslim students opined they could not attend the two class hours due to pray *jumma namaj* of Friday.

Conclusion

In general, the total percentage of student's population in the age of 18-25 in higher education is less than 10%. In case of Muslim students the figure is even lesser in comparison to the total population. But it is to be admitted that things are changing and more number of first generation Muslim student are coming under the purview of higher education. It is observed that about 60% post graduate Muslims students are first generation learner in terms of higher education. The creamy layer of Muslim community prefers modern education that is Science and Social Science. This study suggests that this process of social mobility of Muslim population must be hastened so that socio-economic development of Muslim population is speeded up. The researcher suggests that the Government of India and State Government of West Bengal have taken special programmes during the eleventh five year plan period for development of Muslim minorities. The present researcher recommends for proper implementation of these programmes.

Reference

- AHMAD, F. 2001. Modern Tradition? British Muslim Women and Academic Achievement, *Gender and Education*, Vol, 13, No-2, p137-152.
- AFSHAR, H. 1989. Gender roles and the moral economy of kin among Pakistani women in West Yorkshire, *New Community*, 15, p 211-225.
- AZAD, J.L. 2007. Education of the Scheduled Caste/Scheduled Tribes and Minorities, in Sixth Survey of Educational Research 1993-2000, Vol. II, New Delhi: NCERT.
- BRAH, A. 1993. Race and Culture in the Gendering of Labour Market, *New Community*, 29: p441-458.
- BRAH, A and SHAW, S. 1992. Working Choices South Asian Young Muslim Women and the Labour Market, Research Paper No. 91, London; Department of Employment.
- BHAUMIK, S. K. and CHAKRABORTY, M. 2007. Is Education the panacea for economic deprivation of Muslim? Evidence from wage earners in India, 1987-2005, William Davidson Institute Working Paper No: 858.
- BASIT, T. N. 1997. *Eastern Values; Western Milieu: Identities and Aspirations of Adolescent British Muslim Girls*, Aldershot: Ashgate
- DAS, S. 2007. From the Desk of the Pro-Vice Chancellor for Academic Affairs, in Handbook, Kolkata: University of Calcutta, P4.
- ENGINEER, A.A. 1995. Problems of Muslim Women in India, Bombay :Orient Longman Ltd.
- GOVERNMENT OF INDIA, 2007. National Knowledge Commission; Report to the Nation 2006, New Delhi. www.knowledgcommission.gov.in
- GOVERNMENT OF INDIA 2006. Social, Economic and Educational Status of Muslim Community of India – A Report of Prime Minister's High Level Committee, New Delhi.

- GOVERNMENT OF INDIA, 2007. Selected Educational statistics 2004-05, Department of Higher Education, Ministry of Human Resource Development, New Delhi. P-61
- JEHANGIR, K. N. 1991. Muslim Women in West Bengal: Socio-economic and political Status, India: Minerva Association.
- JACOBSEN, J. 1998. *Islam in Transition. Religion and Identity among British Pakistani Youth*, London: Routledge.
- KHALOON, T. et al. 2007. Muslim Women's Education and their Parents' Attitude: A Case Study of Srinagar, in Sixth Survey of Educational Research 1993-2000, Vol. II. New Delhi: NCERT Pp. 401-402.
- MODOOD, T. 2006. Ethnicity, Muslims and higher education entry in Britain, Teaching in Higher Education, Vol. 11(2): 247-250
- NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING 1979. Field Studies in the Sociology of Education: the Report on West Bengal, New Delhi.
- NEHVI, B. A. and LIDHOO, M. L. 2007. Educated Muslim Women in Kashmir: Their Attitude towards Tradition versus Modernization, in Sixth Survey of Educational Research 1993-2000, Vol-II, New Delhi :NCERT. P-402.
- NURULLAH, S. and NAIK, J.P. 1951. A History of Education in India, Bombay: MacMillan & Co. Ltd.
- PURKAIT, B. R. 1997. Milestones in Modern Indian education, Calcutta: New Central Book Agency (P) Ltd.
- QASMI, M. B. 2005. Education of Muslims in India Problems & Prospects, Paper presented at the conference on Children, Youth, and their Education in a Globalizing India, December 22-24, 2005, organized by Centre for Post colonial Education, Nagwa, Varanasi, Uttar Pradesh, India.
- RADHAKRISHNAN, P. 2006. The right Pathway to Higher Education, sify.com
- SALAMATULLAH 1994. Education of Muslim in Secular India, Centre for Research in Rural and Industrial Development, Chandigarh.
- SESHADRI, C. 2006. Philosophy of Education, in Sixth Survey of Educational Research 1993-2000, Vol. I, NCERT, New Delhi.
- THAKUR, R. N. 2007. Plight of the Minorities: Problems and Grievances on their Education In Sixth Survey of Educational Research 1993-2000, Vol. II, Delhi NCERT. P401.
- THORAT, S. 2006. Higher Education in India: Emerging Issues Related to Access, Inclusiveness and Quality, Nehru Memorial Lecture, University of Mumbai, 24 Nov. 2006.

The “Language” of Language

D.P.Mukherjee¹

Abstract: *While expressing our feelings we often talk about the Language of mind, Language of music, Language of Art, Language of sight and even language of silence or solitude. And seldom has it happened that we cannot comprehend the 'Language' of Language. What we mean here actually is the idea or messages what we want to express or convey through the medium of different expressions- verbal and non-verbal. Non-verbal expressions convey the idea through some visible codes of body language and/or some audible codes, which the receiver decodes to receive it. Verbal expression is language which is also a modified form of audible codes; a system built up on association of sound and meaning and thus assumes a unique structure of its own which is completely different from non-verbal audible codes. This language has its own "Language" which it has got to express, as expressed by music, art, sight and bodily gestures, silence etc. One's language may appear to be intelligible to a particular person and may not be to another one. Members of the same linguistic community may experience this sort of non-intelligibility or misperception of language due to the failure of grasping the contextual meaning, failure due to lack of association of the speaker's idea with the presented context, or due to the gap between the linguistic competence of the speaker and the receiver. The root of this misperception lies in the way in which language expresses its 'Language' –i.e. the idea or the message which it wishes to express. (The idea contained in its phonic symbol or graphic symbol).*

Key words: Message, Expression, Latent Creativity

Introduction

Language is the systematic organization of symbols i.e. phonological units, phonemes and morphemes, through which ideas/ messages are expressed or conveyed. Or to say otherwise, ideas or messages are generally expressed through phonic symbols- Their arrangement in structures, that is, language.

Phonological structures of language presuppose listening by both the producer and receiver; when produced, they are indispensably instantaneous, though the listener may retain them in memory for a short time, but sooner or later they wither away. Hence, since the dawn of human civilization, most of human societies discovered or invented visual codes corresponding to the phonic units- Phonemes or Morphemes- to give them stable shape and writing evolved in course of time. Different graphical forms/ or units (called graphemes) developed in different language, to represent phonological forms. These graphical structures in the shape of written sentences needed to be translated into phonological structure and then to meanings or messages contained in them. Thus reading of the symbols arranged/ programmed in graphical structures had to be practiced as an important skill to decipher ideas/meanings/ messages from the graphical forms of language.

¹ Former Professor, Department of Education, Visva Bharati)

In our customary conversations, frequent switch over morphemes (uttered words or meaningful units of language) to meanings and vice-versa becomes so automatic particularly in very familiar cases, that words and their meaning / message seem identical, and conceptually their duality is almost ignored. In listening, and also in reading this is evident. When we read a text, the graphemes (morphemes are presented in graphical or written forms) with or without production of their phonological form, within moments of their visual exposure, are translated into the semantic form- the meaning/ message inherent in the graphemes. When we can decode the meaning or idea or message instantaneously or after some sort of mental exercise of switching over from word to meaning/ vice-versa, from the phonic/ graphic code, we understand the "Language" of language.

Kalidasa, the famous poet, wrote about parvati- parmeswara, they are close to each other as words and meaning are; "Bagarthaviva samprikta" ie 'somprikta' (related) as vak (speech) and (meaning). Here artha means what we want to convey through the medium of words- the idea pervaded in the set structure, phonological or graphical, this 'Vak' of Kalidas. Sometimes a deeper meaning, a concept a widely expanded panoramic idea can be accommodated in a simple word or "Shabda" and we can immediately identify it through the established association with its 'meaning' whenever we perceive the word audibly or visually

Word-Meaning- Association

Litterateurs are always in search of most appropriate words and sometimes create new words to express specific ideas or feelings to involve our sympathy in creations; and their words heavily loaded with ideas, kindle our imagination, acting as a spark to illumine an inner word or thought. When in Tagore's drama 'Red oleanders' we hear the king saying, (when he prays for Nandini's company) 'I am a vast desert, dry, weary and desolate the word 'desert' touches our heart, the canvas of a weary and desolate desert stretches itself before our sight and we are moved to feel the loneliness of the desert and of the king, and at the end, surprised to estimate the force and strength that language exerts upon imagination.

This 'meaning' or idea may be expressed by a single phoneme, a morpheme a phrase or a sort or extended sentence. This association of idea and its phonic symbol becomes firmly established as and when this word-meaning-association is set in a generalized form and gets deep rooted in the photosphere of a particular linguistic community. In this way, concepts are built up in a language through uses of morphemes as bearers of particular meaning. John B. Carroll define them as follows- 'The words in a language can be thought of as a series of

physical entities- either spoken or written. Next, there exists a set of meaning which stand in complex relationship to this set of words. These relationships may be described by the rules of usage that have developed through the process of socialization and communication. Finally, there exists "Concepts" the classes of experience formed in individuals either independent of language process or in close dependence on Language processes, (Harvard Educational Review, Vol.34. No. 2, P-184) .When a word expresses a societal, accepted specific meaning other than the name of an object or a person, it expresses an idea which can be termed as a concept. In Carroll's words- Meaning of a word is therefore a societally standardized concept. And this concept-morpheme-association is accepted in a standardized form: the communication system of a unilingual community.

Functions of Language-Communication or expression

Man is a language using animal. There is multifarious diversity and sophistication of sound-generation in human speech to develop specific language forms in specific socio-geographical boundaries. These generalized and standardized sound symbols (vide semiotics of language are translated into graphic symbols since time immemorial, and simultaneously these graphic symbols (written morphemes/ words) are again associated with ideas/messages/meaning. This association of morpheme-grapheme-idea are accumulated and solemnly accepted in a nation's language tradition; linguists often name this as *LANGUE*/Ferdinand-De-Saussure); Noam Chomsky named it as linguistic competence. And again when an individual uses this structure of his own language system his performance is called '*PAROLE*' (F.D. Saussure) and Chomsky calls linguistic performance. What is the purpose of this performance? Is it for any type of communication? Any sort of interpersonal communication, exchange of experience or communicative expression? Many theories evolved out of these issues, to find answer of these questions, regarding the use and function of language. Communication-intention-theorists are of the view that the function of language is interpersonal communication. They are of opinion that, a speaker may use sentences in many different ways, but in every case the speaker has audience- directed intentions. In other words, all uses of sentences serve one or other communication purpose. The essential function of language communication is much the same sense that the purpose of heart is to pump blood.

Language acts as a medium of communication and meaning depends solely on the communicative function of language. Meaning is determined solely on the basis of the very purpose of communication. To explain it, F. De Saussure, identified two components of the

function-‘Language can be viewed as a communication system that relates something to be communicated with something that communicates. The former is ‘signified’ i.e. the meaning or message; and the later is signifier, which is the set of symbols or signs. To understand the nature of language, one must understand differences between signs, signifier and signified. Sign of a language is composed of two elements-concept and phonemic entity. Concept is signified and phonemic entity is the signifier. These two constitute a complete psychological entity.

The expressionists are of different views. They explain the function of language in a different way. Noam Chomsky says, ‘‘language is essentially a system of expression of thought .The syntactic structure of human language are the products of innate features of the human mind and they have no significant connection with communication ,though of course ,people do use them for among other purpose ,communication .The essential things about languages , their definite trait is their structure.

Two ideas are clear from the above discussion-(1) We express our thought through languages and (2)the syntactic structures of language and its intra-sentence order of word is the manifestation of our mental process of thinking and activities although we may use it in interpersonal communication also.

In fact, some times structured syntactic forms of language are produced only with a view to express definite thoughts and ideas, even in the absence of active or passive audience to communicate with. Sometimes one produce structures to speak to himself, in silence or in solitude, even while he is communicating on a particular theme or subject with another person, innumerable thoughts may emerge instantaneously and then again dissolve in the amorphous mass of thought. Here these syntactic forms are produced as expressions satisfying his/her emotional aesthetic or other temperamental needs and urge. The communicationist may explain this phenomenon as intra personal communication which is effected between the two existence of self, this ‘This –I ‘ and ‘That-I’.

From these two theories, we may analyze the character of this ‘meaning’ or ‘idea’ or the ‘language’ of language. According to the communicationist , when a speaker utters some word or sentences , he actually produces some phonic codes in which s/he encode some message , the listener receives the codes and decode the message / meaning from the phonic symbols ,and understand the same , and certainly with reference to his own mental state of experience and semantic frame , and she actually carries meaning to the sentence. Moreover, understanding of meaning from the phonic codes in the utterance of the speaker depends on the accent and stress imposed on particular morpheme or phoneme component , order of

words in the sentence and their transformational value, and limited probability of meaning in relation to particular time and space. This role of accent in an utterance can be well understood when we change the accent or stress from one word to the other, to denote the variation of meaning, e.g. –

Why did you go there?

Why did you go there?

Why did you go there?

Why did you go there?

Here the meaning is depending as on the phonic structure, and whenever we receive meaning from the utterance, the association of phonic presentation with semantic structure demands primary importance. Where the utterance is charged with implied meaning a receiver perceives it with reference to / her own semantic frame. This reception i.s., sometime, followed by appreciation of ideas that varies from man to man, situation to situation. Here lies the communicative value of language.

When the poet says-

He knew the path that wanted walking

He knew a spring that wanted drinking,

A thought that wanted further thinking

A love that wanted renewing (R.Frost)

The reader has to recreate the idea of the poet which he seems to convey or communicate through the inner structure of the lines. Meaning here is not absolutely given in the lines, rather meaning is to be attributed to the same. In similar cases where implied or attributed meaning surpasses the literal meaning, we presuppose appreciation on the part of the reader or listener, s/he recreates the 'language' of the given structures, adds his /her wealth of emotion and reflections of his/her own thought to the structures. Here lies efficacy of communicative functions of language.

On the other hand, the expressionists observe that the 'meaning' is given solely in the structure. Noam Chomsky says, "In contemplation, enquiry, normal social inter change, planning and guiding one's own actions, creative writing, honest self-expressions and numerous other activities with language, expressions are used with their strict linguistic meaning, irrespective of the intentions of the uttered with regard to an audience, ...

"I use language to express or clarify my thoughts with the intent to deceive, to avoid an embarrassing silence in a dozen other ways.

"My words have a strict meaning and I can very well mean what I say. What a sentence means, is given in sentence itself and hence remains the same however the sentence may be used. In some cases, I, the speaker have no intention of getting the hearer to know any thing or to recognize anything but what I say has its strict meaning, and I mean what I say.

But in course of time he felt that this theory does not explain all the functions of language. Edward spair, even being a structuralist, admitted psychological bearing of language and its relationship with culture and literature and accepted the role of idea and meaning in explaining the context of phoneme and morpheme. N.Chomsky considered the observations of Humboldt (German linguist) that language is the expression of latent creativity of human beings. They posses immense ability to create and use unlimited language forms and expressions. He valued Humboldtian conception of underlying competence as a system of generative process. He differentiated between competence and performance. Competence is an ideal grammatical structure having immense potential of producing varied expressions and performance is the ability to produce various (individuals) speech forms. This explanation follows F.De Saussure's definition of 'langue' and 'parole'-'langue' as competence and parole as performance. From this, he deduced most of the language structures we use are surface structures and in many cases, corresponding deep structures are there which involve implied ideas or meaning. Here lies the transparency of expressionistic views conceived by Chomsky.

Both these theories are open to controversy in arriving at any consensus about the functions of language. It is difficult to draw any conclusion as to how language expresses its 'language' (idea/meaning/message) and how we perceive it, or whether language can very well mean what it means to mean; or we carry message/meaning to it, restructure the surface structure to conceive the deep structure to extract meaning from it according to our semantic frame. We cannot but agree to the point that expression is supported by a stronger psycholinguistic foundation. Originating from the intention of expression, language also acts a means of communication and to make the medium more useful and purposeful; newer characters are being attributed to its structure and its potential of communicative expression is growing day by day. And it is difficult to as certain whether the language these two opponent groups use to establish their notions would suffice to convey the idea about their inherent contradictions.

Some newer thoughts and observations have emerged in the sphere of structure, construction and verblality of language. We may recollect in brief the observations made by F.D Saussure-

(1)The dynamics of a living language can be elaborated from two points of view ,one diachronic dimension where the background of morphemes, their idiomatic use ,their phonemic uniqueness changes and extends and modifies chronologically ; and the other ,synchronic dimension where the construction of language are shaped in accordance with specific time and space .

(2)Language and parole. (Discussed before).

(3)Sign, Signifier and signified.

Sign of a language is composed of two elements –concept and phonemic entity. Concept is signified and phonemic entity is the signifier .These two constitutes a complete psychological entity.

Martin Heidegger, the linguist philosopher said, it would not be sufficient to define language as the symbol of concept or meaning ,its nature is something poetic and mysterious. We can perceive its nature only up to that extent which if unfold to us .language attempts to search out that element (idea/concept/message/meaning) which we also want to search in and through language and we have no way out to get it except by the help of language .

This mysterious and poetic element (idea/concept) is embedded in the form of language, in its very soul. Human thoughts and expressions are limited within the boundaries of this soul of language .There is no space where language or its nature can be perceived. (Introduction to metaphysics) Whittgenstein said, no form of language can exist without any perspective. We have to perceive the significance of language units keeping them on the perspectives of human living (Philosophical investigation). Some newer dimensions are added by deconstruction theory propounded by Jacques Derrida in the sphere of explaining the nature of language. According to Derrida , the Langue –Parole or signifier – signified theories of F.D. Saussure is beyond reason .Parole and Langue are not different in the sense that as Parole is the expressions and derived from Langue , Langue has no separate expressive existence. Similarly, difference between Signifier and Signified is insignificant because, there is no ``Signified’’ which is free from `Signifier’; actually these are two sides of the same creation, they are completely inter depended.

Derrida is not agreed to accept any preconceived notion about tradition and custom regarding the definition and nature of language. He comments, to understand and comprehend any structure, all sorts of logo centric closures (control of scientific reasoning about rules of language) and Phonocentric closures (control of phonological rules) and boundaries of their established assumptions and meanings have to be opened first, and then their constituent

elements to be analyzed, unbounded and reconstructed, without any prejudice .Derrida coined this process as DECONSTRUCTION .

The author (or speaker) intends to convey some specific /particular meaning /message through Language ,but the reader or listener is not obliged to regard it as true or accurate ,rather she/he has every right to construct or to review the meaning /message according to his /her experiential perspective . She/he is free to agree or disagree, question and dispute and even transgress all types of logo centrism. Reasoning and conception would be transparent through successive deconstruction and truth would be revealed. And this truth is also subject to further deconstruction.

Hence, no Parole is subject to any certain langue ,no distinction between signifier and signified ,consequently any language may be mere translation of another's latent message/idea and the receiver (listener or reader) may arrive at the same message from the translation ,or may translate the structure according to his/her own mentalistic notion or disposition .

Derrida has given more emphasis on reading and writing than on speech, speech being the means of instantaneous expression of the speech after listening and having primary comprehension. But when written ,the elements are separated /isolated from the spontaneity, the reader gets ample scope to superimpose or project the written from on his/her own psycholinguistic and socio linguistic field and extract the meaning /concept , arrange and analyze the elements ,ascribe newer meaning on them and deconstruct them accordingly. Thus an effective bond of communication is created between the author's expression and the reader's comprehension .This process of deconstruction is significant in revealing the poetic mystery of language according to Hedeggar's theory.

Rabindranath Tagore once in his very rare poem, composed in the last decade of his life expressed views against such logo centric and phonocentric closures, though on that time , these words coined by Derrida were not known to us. He wrote (translation by the present author) sometime: I could imagine, innumerable words strive for liberty, from the long captivity in the fortress of grammar. All on a sudden; they revolt against the customary order of sentences and break open the shackles of semantic frames.

Human beings have subjugated word to their choice and force them to carry prescribed messages: for that purpose, confine them under the boundary of complex and strict syntactic rules. I find, some times the words react and crowds of word run away to snap the bondage of meanings.

If ,according to this very significant poem of Tagore ,we accept this hypothetical phenomenon of go-as-you-like-tendency of words to wander in the socio-cultural milieu with least obligation to the customary word meaning concept bond, then the conflict between the structuralist, communicationist and expressionist could be tolerably minimized .The listener or the reader also have no obligation to abide by the logocentric closure in their search for meaning .They are free to reconstruct and deconstruct meaning from the linguistic elements embedded in the text.

And yet these theories do not suffice to explain all the function of language .The eminent German linguist Dermesteter pointed to a newer dimension, we often utter some words, phrases or sentences which radiate meaning .As sunlight illumines objects of different properties differently in same structure carry or convey different shades of meaning to person having different semantic frames of socio-cultural exposure. There is of course a central source of meaning, seminal meaning, as Trench calls it, and from it, divers meanings are radiated, getting branched and flowered in the minds of the receivers. Trench says, "a word has a sort of true origin and originally one meaning, and all the other meanings may be brought back and affiliated upon it." In his words, "words have their domain of meaning " and have their definite range of applications.

Whenever we appreciate poetry use or get involved in humour, pain, wit or any other form of rhetoric ,the radioactive function of language flashed upon our imagination .We want to elicit the meaning ,associating the linguistic and phonological/graphical structure with its affiliated or attributive semantic structure ,we can come to the conclusion that language has the potential to radiate ,its communicative expressions in spectral ways, and subsequently come across three interacted functions of language: communication, creative expression and radiation of meaning.

Threats to University Governance in Mozambique

Ivan Collinson¹

Abstract : Public higher education in Mozambique has faced several challenges, from access to finance and quality assurance. But there is another equally important challenge that deserves special attention, namely, the university management. This article entitled "Threats to University Governance in Mozambique", aims to provide an overview of the process of university management particularly in public universities in Mozambique, and the threats arising from an overly centralized management model, inspired by ministries management. The recent history of higher education in Mozambique goes back to 1962, during the colonial period, where a single institution of higher education, called General Studies University (GSU), initially served only the interests of the colonizer. This institution had a format of college and was an extension of some Portuguese universities in Mozambique, offering only undergraduate degrees. General Studies University only reached the level of university in 1968, beginning to call Lourenço Marques University, and in 1976, after Mozambique's independence on 25 June, 1975 was again changed to the Eduardo Mondlane University, in memory of the first President of Mozambique Liberation Front, a movement that began the liberation struggle of colonial (Sitoe, A., Machaieie, E., Matlombe, S., Collinson, I., 2007).

Key Words: Corporate Governance, Autonomy

Due to historical factors, such as relationships with the former Russia, the governance model which was chosen was socialism, characterized by the centralization of state services. This governance model was being replicated at various levels, including education institutions, aiming absolute control of the State (Subuhana, 2006). Now, as a result of this philosophy of governance, education institutions, particularly universities, have their leaders, namely, their Rectors and Vice-Rectors appointed by the President of the Republic, although the collegial bodies had a function of recommending to the President individualities to consider (Lúrio University's Statutes, 2006). Indeed, in an exercise of simple reproduction of the management model referenced above, the Rectors of public universities have called to themselves, accumulation of powers, the functions of the Rector and simultaneously Chair of the University Council, because of his functions as the head of the university (ex-officio member), but also President of the Academic Council and Chairman of the Governing Board (Lúrio University's Statutes, 2006).

According to the University's Statutes (2006), in practical terms, the University Council is the supreme organ of public universities in Mozambique, followed by the Rector himself, the Academic Council and Governing Board. The Academic Council is an advisory body to the University and to the Rector, and is responsible for all matters of academic nature, including curricula, scientific research, creation and termination of programs, degrees and honorary

¹Deputy Registrar, Academics, Universidade Eduardo Mondlane, Mozambique.

titles, training of faculty and academic component of the plan and annual report. Finally, the Governing Board is the advisory body to the rector, responsible for daily management of the university, namely, planning and budgeting, operational, administrative and financial management.

Corporate governance is defined, according to De Deus, F. O. (2006), and by the Brazilian Institute of Corporate Governance as a "system by which companies are directed and monitored, involving relationships between shareholders, the Board, Directory, independent auditors and Audit Committee", from which we extract the essence, is the relationship between the main actors.

This approach of governing proposed in this document to be adopted by public universities in Mozambique, emphasizes certain fundamental characteristics that make it unique compared to other models. The participation of all stakeholders in the decision process, the integrity to safeguard the interests of all stakeholders, transparency that is observed in the equal distribution of information, guidance by consensus and accountability (webgraphy) are basic characteristics of an organization, especially those whose vocation is the preparation of critical minds, with innovative capacity, in this case, the university.

In general, the adoption of principles of corporate governance increases the value of the company, facilitate access to capital and minimize agency problems between the various actors of business relationship (Bianchi, 2005). Robinson claims that the adoption of good corporate governance practices limit the abuse of power by administrators of the organization's resources (Rodrigues, 2008).

Agency Theory, often referred to in a corporate context, and only few times in the Mozambican public sector and much less in the context of university administration, was first proposed by Adolph Berle and Gardiner Means (Bianchi, 2005), and later reformulated and perfected by Michael C. Jensen and William Meckling, emphasizing the separation of powers of ownership and control of the company (Bianchi, 2005). Applying Agency Theory to the university management model currently in force in Mozambique, we can deduce that the accumulation of powers of the presidency of various organs collegiate university, it attacks the principles of corporate management and corrupts the ideals of participation, transparency, integrity, consensus and accountability. So, indeed, the direct appointment by the President and excessive accumulation of powers, threaten the university governance of public institutions of higher education in Mozambique.

First, the appointment of the Rector of a public university by the President of the Republic may imply immediate influence on university governance, in harmony with the lines of that particular government administration. This model also opens the opportunity for political influence, and even partisan, and it materializes as the Rector may be appointed on the basis of national interests, but eventually for the interests of party-political agenda of the government, undermining the transparency and integrity of university governance, characteristics of good governance.

Another aspect inherent in the excessive accumulation of power in the figure Rector is that the management model and the lines of university governance can have a personal touch, if any particular interest in a particular line of decision. That is, the personal guidance and even personal will, be able to succeed in all circles of the above decision, against the wishes of the university community, as a consequence of the powers accumulated by the Rector, in the "chain of decision."

Another consequence is the threat to university autonomy, whether scientific, educational and even at management level. The choice of potential areas for investigation can be conditioned by the priorities set by Government and not necessarily those priorities set by the university body itself.

Last but not least, is the embarrassment created in institutional relations, since being appointed Rector directly by the President of the Republic, and according to the operational structure of the sub-systems of education, which sets the higher education as a sub-system of education, it must be subordinate to a National Director of Higher Education, appointed by the Minister of Education, creating discomfort in the relationship and subordination. Eventually, the appointment of a deputy minister for this area mitigates this climate of unease.

The need for a model of university management to adopt principles of corporate governance will also allow a greater involvement of other actors in the life of the university community, is what might be called an inclusion degrees (in Mozambique has not yet established a culture of alumni).

The involvement of the university community in decision making and management of universities in Mozambique has been limited to governing bodies and student organizations. Although, even with some effort to promote this involvement, this indeed has been slow and ineffective, especially when it comes to the selection and appointment of the Rector, who is the central topic of this document.

The selection should be made through a competitive process where applicants compete equally, submitting projects of governance that would be subject to consideration of the entire university community in an act of total transparency and involvement of all stakeholders. In turn, the university community would elect the candidate who would bring together the best project requirements and, in his opinion. Finally, the University Council would formalize the nomination of candidates for Rector.

Therefore, the involvement of the university community is not just to summarize the indication of names subject to a later final selection by the President of the Republic, as currently done. With this model, the selection and appointment, but also the monitoring and evaluation of the selected candidate for the post of Rector, would be the responsibility of the respective university community, protecting it from external influences to the academic environment, often without any knowledge or depth of field internal management processes of a university.

Indeed, a greater concern to management, specifically and exclusively applied to university, is required in public universities in Mozambique. The need for a management model for universities in particular, first importing and adopting concepts of corporate governance, but on the other side, leaving the traditional model of public management, inspired by the ministries, will give a new look to public universities in Mozambique, but also a new dynamic.

The relationship with the outside world, specifically to attract other funding sources, promotion of the relationship with industry, without any intermediation on ministerial level or other governmental authority and the development of applied research, would be positive consequences of a model that embraces a way to be closer to university in the industry, but also of communities.

The reduction of powers of the Rector of public Universities, ensure greater autonomy for the collegiate bodies, promote a greater and more effective involvement of other actors in decision-making within the university, but would also allow the culture of accountability to the university community.

Parallel to these reform measures, public universities are urged to create tools and training programs in order to improve their performance, either through training of specialized personnel in the field of university management, either in research that would feed the

discussion on improving quality in higher education, which incidentally has been monopolizing the Ministry of Education.

In Mózambique there is no institution of higher education with a degree program on university management. This highlights again the role of centralized government, via the Ministry of Education, which is who promotes research on higher education.

Finally, to give effect to these proposals, and in a medium and long terms, the amendment of existing legislation, whether as regards the appointment of the Rector, either in the regulation of the relationship between public and private, would give support legal changes proposed in this document.

The assurance that higher education in Mozambique requires from public universities in particular a new internal dynamic but also external, especially in opening up the relationship with industry and the private sector - privileged sources of financing - which is only attainable through the amended traditional management models, to accommodate specific ways of being in a critical way, which is the university.

Hence the adoption of these recommendations, symbolizing that even a reform in university management, represent an openness to transparency, participation, creation and promotion of a democratic environment, critical, unique in the university environment.

References

- BIANCHI, M. 2005. A Controladoria como um Mecanismo Interno de Governança Corporativa e de Redução dos Conflitos de Interesse entre Principal e Agente. São Leopoldo, 39, 67.
- DE DEUS, F. O. 2006. Governança Corporativa, Internacionalização e Off-shore Companies: O Caso Parmalat. Uberlândia: Universidade Federal de Uberlândia, 13. Estatutos da Universidade Lúrio. Decreto N^o 50/2006, de 26 de Dezembro, Boletim da República de Moçambique Número 52 – I Série, 2^o Suplemento, arts. 14, 20, 21, 22, 23.
- RODRIGUES, J. 2008. Corporate Governance: Uma Introdução. Mangualde: Edições Pedago, Lda., 37-38.
- SITOE, A., MACHAIEIE, E., MATLOMBE, S., COLLINSON, I. 2007. Report on the Effects of Massification at the Eduardo Mondlane University (1986—2006). Maputo: Universidade Eduardo Mondlane, 3.
- SUBUHANA, C. 2006. Minha história/trajetória de vida inserida na problemática da construção da cidadania e da nação moçambicana. São Paulo. Casa das Africas-associacao Bem Comum 9, 12. Retrieved: July 23, 2010 from <http://www.sobreadministracao.com/a-importancia-da-governanca-corporativa-nas-empresas-familiares>.

Trends in Professional Ethics

Deepa Rani Saxena¹

Abstract: *The composite nature of ethics is required attention in the teaching profession to maintain quality in this achievement oriented profession. To maintain the quality of school educations, development of professional ethics is pertinent. Code of conduct for school teachers is beneficial to strengthen to teacher professional ethics.*

Key Words: Professional ethics, Code of conduct

Introduction

The nutritious value of Teacher education is an undeniable truth. Professional Ethics in teacher education demands higher level of education and competence to maintain the standard and quality of education. Studies focused on the characteristics of educational development in India suggest that there has been a "positive spurt" in quantity and 'negative spurt' in the quality of overall education (Mishra, 1999). To ensure quality education, professional ethics in teacher education is imperative because quality of education ultimately rest on the quality of teacher. Professional ethics, the concept implies adhering to principles and degrees of commitment to the occupation. Such a commitment, which not only provides knowledge and skills but also provides enlightenment of human personality in order to provide public service. Ethics and public service are altruistic ideals, which permeate our ancient education. Altruistic ideals need attention in the achievement oriented – commercialized society. Thus, individual teacher's commitment to being the master of knowledge upon which his/her occupation is based will show his level of efficacy and efficiency in providing effective service to his/her students. Proficiency calls for positive attitude towards one's own profession, which also requires one to be life long learner and morally bound to ideals of the profession. The role of teacher education is to prepare a committed and competent prospective teacher. The reason to focus on teacher education and professional ethics is the deteriorating sanctity of school teaching. Why teachers are failing in their duties towards their profession? How much teacher education giving weight to professional ethics? Is environment responsible for deterioration of professional ethics? are the questions that need to be answered. Teacher education with incorporative and emphasis

¹ Professor of Education, Mahila Mahavidyalaya, Banaras Hindu University, Varanasi

on all the attributes of professional ethics will certainly be able to minimize issues in the school education.

Profession

Very few empirical studies have been done on professional ethics. Professionalism in higher education were university-based professional group along the continuum of professionalism provides much needed information to establish an academic assessment of the group's professional behavior, status and legitimacy, both in society and within the university organization (Braxton, 1992, 1999). However, as Abbott (1988) contended, the continuum alone is not solely responsible for the behavioral foundations of a profession.

The literature of the professions followed its own developmental process. The modern professional continuum includes, but is not limited to, medicine, law, (Abbott, 1988; Carr-Sanders & Wilson, 1964; Goode, 1969), the clergy (Carr-Sanders & Wilson, 1964), the professoriate (Braxton, 1999) and other emerging or semi-professions, such as accountancy, nursing, dental hygiene, social work (Abbott, 1990; Greenwood, 1957).

Carr-Sanders and Wilson (1933) did comprehensive work on profession with a qualitative case study that served as a foundation for identifying the initial characteristics of the professions. Parsons (1939), Goode (1969), and Harries-Jenkins (1970) works in the sociology of professions, particularly with regard to the characteristics of the "American" linear professional continuum.

Parsons (1939), an American contemporary of Carr-Sanders and Wilson, demonstrated the importance of the behavioral process of the professions within the entire social structure. He was interested in the motivation behind the people in the professions, and studied whether these people were self-serving or truly dedicated to service without self-interest. He was concerned with human action and the struggle between egoism and altruism.

Greenwood (1957) noted that a profession is an organized group that functions continuously in society and forms its own subculture within the larger society. He also discussed codes of ethics, which are explicit, systematic, and binding and possess more altruistic overtones and are more public service oriented.

Goode (1957) was concerned with the relationship between "contained communities" and the larger society. He reported that the "community of profession" is characterized by: (1) a collective sense of identity, (2) a very low attrition from the practice, (3) a sharing of a common value system, (4) an established set of roles, (5) a common esoteric language, (6)

power over other members, (7) limits that are primarily social limits, and (8) strict monitoring of the entry of members into the community. He further contended that society as a whole tends to create the need for a specific profession. He also mentioned that society, as professional community must justify each provision in its code of ethics or etiquette by involving ethical notions that are also accepted by the larger society. In 1960, Goode expanded his eight-point professional continuum to 10 points to address the aspirations of psychologists and other emerging professions to be recognized as professions.

Goode (1969) reported two "generating traits: (1) professions possess a basic body of abstract knowledge and (2) professions profess an ideal of service. Bucher and Strauss , Wilensky, Moore , Abbott (1988) worked on professions that are more closely resembles a process. They call it "arenas" or organizations, as an important area of the professions i.e. professions do not work in a vacuum but must be moulded by the influence of organizations and society.

Ethics of Teaching

Ancient and modern philosophy have provided a literature on ethics of teaching. It is always a matter of discussion and debate for practical realization, and contribution to the human condition. There are several articles and books on the ethics of teaching. Moral dimensions of teaching and ethical nature of the teaching profession often taken for granted in both the school and teachers themselves. John Dewey (1909), Willard Waller (1932), R.S. Peters (1966) tended to address the moral nature of teaching and schooling in a curricular context of the moral education for students rather than for teachers. However, the heed has not be paid to teacher's ethical role or ethics of a professional group.

Educational philosophers and researchers such as David Carr, Gary Fenstermacher, David Hansen, Philip Jackan, Robert Nash, Hugh Sockett, Jonas Soltis, Kenneth Strike and Alan Tom have focused attention on the moral essence of teaching and ethical professionalism. Their purpose is to review the field of professional ethics in teaching as it is situated within a wider concern for the moral dimensions of teaching and schooling.

The thematic structure of this study reflects two broad approaches. The first approach deals with the discussion, articles as defining characteristics of the moral and ethical dimensions of teaching, ethical challenges and delimmas that face by the teachers. Secondly, about moral education, social justice, teacher educations and educational administration. The focal point of review is first approach.

The literature referenced in this review represents a ethics and the essence of moral practice in teaching. Carr (2000), Fenstermacher (1990, 2001), and Sockett (1990, 1993) invoke the language of virtue ethics; Strike, (1990, 1995, 1999) discussed principles, rights and duties. Bayer, (1997); Slattery & Rapp, (2003) mentioned more radical views on the moral purposes of schooling. Campbell, (2003) wrote from the perspective of applied or practical ethics. Most of the discussion is based on professional virtue such as fairness, justice, integrity, honesty, compassion, patience, responsibility, practical wisdom.

There are three distinct forms of studies: they are philosophical essays, commentaries, and arguments by Carr, 2000: Sockett, 1990. Most of studies explored the moral and ethical aspects of teaching from perspectives that they may detached from the everyday life of classrooms. Secondly, empirical studies, they are qualitative in nature, investigating philosophical questions regarding moral practice of teachersy Buzzelli & Johnston, (2002); Campbell, (2003). Thirdly, there is a range of casebooks that are presented in a kind of textbook form concerning with analysis of ethical dilemmas in teaching. The case studies are constructed as fictionalized situations. They pose difficult moral choices to challenge readers to project and justify their decision-making and to hone their ethical sensitivity and judgment by ; Hostetler, (1997, 1992).

Prior to the last decades of the 20th century, discussion of this area predominantly addressed the teacher's role as a moral educator and the school's moral purpose broadly as an institution and as a place in which to inculcate virtue in the young. Direct connections to the ethical professional practice of teachers were left implicit rather than being the focus of theoretical or empirical inquiry. In the 1980s, several key sources emerged to draw early attention to the field of the moral and ethical aspects of teaching.

Sharon Strom wrote a chapter in "The Ethical Dimension of Teaching" edited by Reynolds. He raises significant questions about the role and power of teachers as ethical practitioners. Earlier Joseph Watras (1986) wrote article on the teaching of applied professional ethics to student teachers in schools of education. Jonas Soltis on the teaching of professional ethics, reflects the compatible areas of the moral and the ethical as related to teaching. In the year 1990 the book, *The Moral Dimensions of Teaching*, edited by John Goodlad, Roger Soder, and Kenneth Sirotnik, was published. Authors of chapters in the volume explored the moral dimension of teaching from such varied perspectives as teacher professionalism, the ethical responsibilities of teaching, accountability, and the practice of teaching itself.

The Professional Ethics of Teaching

Strike and Ternasky's 1993 in his book *Ethics of Professionals in Education: Perspectives for Preparation and Practice* referred ethics in three broad ways: as contributing to educational policy, as reflective of moral education, and as conceived as professional ethics. Professional Ethics "a domain which has been somewhat neglected until recently" (Strike & Ternasky, 1993, p. 2). The book's three-part structure explores firstly "philosophical perspectives" that include chapters on character and moral reasoning, liberal democracy, and caring. The chapters in the second part share a common emphasis on the inclusion of ethical instruction in pre-service education, and the third section examines ethics within institutional contexts and includes chapters on "professionalization". Robert Nash's book "Real World Ethics" concentrates on the teacher's role and integrates a discussion of contrasting perspectives on ethics, occasional scenarios of a case study nature, and evidence from Nash's own university teaching experience in courses on professional ethics.

In 1998, Felicity Haynes' book, entitled, *The Ethical School*, offered a perspective on the ethics of teaching and schooling within an Australian context. The book combines philosophical discussion of ethics and practical situations during teaching.

Campbell (2003) wrote a book '*The Ethical Teacher*' describes the conflicts, tensions, and dilemmas of a moral nature that teachers experience in ways that undermine their sense of moral agency and their ethical knowledge. Beckner , Bradley, Campbell , Freeman , Sergiovanni , Socket , Strike & Ternasky reported that the literature relating to the desirability and potential usefulness of ethical codes varies from being generally supportive in principle to highly critical in practice.

The concept of "good teacher" (Hare, 1993), concept of "manner" (Fenstermacher, 2001) defining teacher "dispositions" (Sokett,2006). However, Colnerud's 2006 highlights the fact that "goodness" in teaching is not always easy to achieve.

Ethical Dilemmas in Teaching

The interpersonal essence of teaching creates moral conflicts among teachers, between teachers and principals or students or parents, and within individual teachers themselves who struggle to do the right thing amidst the complexity of knowing what is fair or honest or caring in specific situations. Some teachers feel like helpless and silent witnesses of colleagues' conduct they believe to be harmful to students, be it abusive emotionally or physically, negligent, or incompetent. Should a teacher report a colleague whose conduct is

harmful to students at the personal risk of collegial ostracism for perceived disloyalty? There are several such situations in the class-room and school, where teachers face moral and ethical dilemmas that sting the conscience, compromise principles, undermine moral sensibilities and jeopardize a feeling of professional autonomy.

Young (1995) & Nash (1996) defines a dilemma broadly as a moral problem or as a difficult choice between two or more alternatives. It is evident that teachers experience dilemmas in their professional lives. Gunnell Colnerud (1997) wrote about the specific ethical conflicts teachers in Sweden concluded that teachers' respect for colleagues often overshadows a sense of moral obligation to students. In Finland, Tirri and Husu (2002) were studying the moral conflicts or ethical dilemmas of elementary school teachers and identified a third of their cases reported that "involved situations in which a colleague had behaved in a cruel way towards a child". Case studies serve an interesting and useful purpose not only in stimulating thought about the moral and ethical dilemmas teachers face in schools, but also in providing a springboard for examining the moral aspects of teaching and the ethical responsibilities of teachers more broadly.

Teacher Education's Role in Preparing the Ethical Teacher

"Bergem (1992) conducted study on Norwegian colleges of teacher education found that no clear and sound rationale guides teacher education, that the practical technological approach to teacher education prevails . . . and that prospective teachers do not acquire a moral vocabulary. Consequently teacher education neglects the teaching of ethics in comparison to what is taught in other professional education programs. Campbell, 1997 reported that greater emphasis needs to be placed on moral and ethical education in teacher education programs to acquaint new teachers with the moral dimensions of their chosen profession.

Within the teacher education literature are articles that present conceptual and theoretical arguments promoting the inclusion of moral themes in the curricula taught to teachers and pre-service teachers as a way to acquaint them with the moral nuances of teaching (Beyer, 1991, 1997; Sockett, 2006; 1997) similar arguments are offered by others in the form of but use the language of professional ethics and the development of ethics curricula in teacher education, associate the moral and ethical nature of teaching to the teacher's role as a moral educator and the need for teacher education programs to acquaint student teachers with this important responsibility.

National Scenario

Moral/value education covers a wide range of areas including religions values, character building, cultural heritage, social norms, political values, modes of behavior attitudes, ideologies, moral judgement, moral reasons and moral dilemma. These studies were done in the field of philosophy, psycho-educational and sociology.

Mahabharata , Upanishads , Kalidas plays reported that there are evidence of educational and value component, which includes love, truth, non-violence, concerns for other equanimity of mind and revealed that their ideology emphasizes 'Being' and self-realisation as ultimate pursuits. Environmental, social, political and administrative values are inherent in the plays of Kalidas, happiness, virtue, common good, social, moral and spiritual value are evident in education programmes respectively.

Surveys, experimentations/action research and developments research at primary/elementary level were on home environment, environmental awareness, national integration, altruism, kindness ,religion, television and on emotional development. Tripathi, (1996), use the technique of diary analysis to arrive at children's views on right and wrong.

Secondary School Level

Studies at secondary school level concentrated on investigating influence of psycho-social and demographic variable on development of moral and other values by Padhan, (1994); Padhan and Thakkar, (1994); Srivastava, (1994). Some of the researches focused on identify methods and techniques in values education by Kapoor, (1995); values classification , Jurisprudential Inquiry Model and value analysis model .

Senior Secondary School Level

Review of researches revealed that comparative studies were done between arts and science students, influences of locale, sex has been discovered on social and economic values. Religiosity had a positive influence on shaping values. There is research on cognitive restructuring for improving altruism. There are studies in value judgement, value reasoning and value criteria using live discussion and recorded discussion to enhance kindness. Very few studies were found on attitudes towards value education, their value learning processes, groups of teachers, school principals, educationists, parents on values/moral educations.

Conclusion

There is dearth of research in the area of professional ethics in teaching. Morals/values are embedded in the ethics. They are one of the component of ethics. The composite nature of ethics is required attention in the teaching profession to maintain the quality of education. It is humanistic subject, most of the studies are based on qualitative data consisting of naturalistic, observation and case studies. Keeping in view the intricacies of socio-emotional situation it has been observed that most of the researches conducted used inferential statistics and correlated methods, which provide compartmentalized knowledge instead of tapping the underlying process. To gain insight into the component of ethics of students, teachers and principals or ministerial staff needs to evolve situational and observational techniques, case studies with the help of electronic gadgets may throw light on the development of self of individual. A cross validation using empirical data may also strengthen the qualitative techniques.

Indian philosophy has provided rich knowledge of ethics. To maintain the quality of school educations, development of professional ethics of teaching profession is pertinent. Clear cut demarcation of professional ethics may provide positive outlook, pin-pointed knowledge in the framing of the Teacher's training curriculum. It also pave the ways for do's & don't for school teachers. It would be advisable to conduct interdisciplinary research utilizing and validating ethics connotations from various professional disciplines. This would help to locate commonality and differences in the ethics of different professional discipline. There is scarcity of research in the area . Code of conduct for school teachers is beneficial to locate and strengthen teachers' professional ethics. The roots of the ethics is the society. Comprative studies of teachers' professional ethicsof different cultural background may provide insight on differences in professional ethics and culture of society.

References

- ABBOT, A 1988. *The system of professions*. London: University of Chicago Press.
- BAJPAI, S. 1997. A study of values in relation to local and gender, *India Journal of Educational Research*. 16(2), 55-59.
- BERGEM, T. 1992. Teaching the art of living: lessons learned from a study of teacher education, In F. K. Oser, J.-L. Party, & A. v Dick (Ed.). *Effective and responsible teaching: The new synthesis*, San Francisco: Jossey- Bass. pp. 349-364
- BEYER, L.E. 1991. Schooling, moral commitment, and the preparation of Teachers. *Journal of teacher education*, 42(3), pp205-215
- BUZZELLI, C.A., & JOHNSTON, B. 2002 *The moral dimensions of teacher Language, power, and culture in classroom interaction* London : Routledge Falmer.
- CAMPBELL, E. 2003 *The ethical teacher. (Professional learning)*, UK : Open University Press McGraw-Hill.
- CAMPBELL, E. 2008. Teaching ethically as a moral condition of Professionalism, In L. Nucci & D. Narvaez (Eds.), *The international handbook of moral and character education*, New York : Routledge. pp. 601-617
- CARR, D. 1993. Questions of Competence , *British Journal of Educational Studies*, XXXX1 (3), Pp 253-271
- CARR- SAUNDERS, A.M. & WILSON, A.M. 1933. *'The Profession*, London: The Clarendon Press.
- COLNERUD, G. 2006 teacher ethics as a research problem : Synthesis achieved and new issues. *Teachers and teaching : Theory and Practice*, 12(3), pp 365-385
- FENSTERMACHER, G. D. 1990. Some moral considerations on teaching as a profession, In j. I. Goodlad, R. Soder, & K. A. Sirotnik (Eds.), *The moral dimensions of teaching* San Francisco : Jossey- Bass. pp. 130-151
- GOODLAD , J. I. , SODER, R., & SIROTNIK, K. A. (Ed.). 1990. *The moral dimensions of teaching*. San Francisco : Jossey-Bass.
- GOODE, W.J. 1957. Community within community : The profession, *American Sociology Review*, P. 194.
- GOODE 1969. *Human Resource Management in Sport and Recreation* by P. Chelladurai. Chapter II : Professionals and Professionalism. P 22-23.
- GREENWOOD 1957. Attributes of Profession in www.richardcheeks.com/profession/profattributes-x.htm. p 51.
- HAYNES, F. 1998. *The ethical school* . London : Routledge.
- HOSTETLER, K.D. 1997. *Ethical judgement in teaching* . Boston : Allyn & Bacon.
- MACMILAN, C.J. B. 1993. Ethics and teacher professionalism. In K. A. Strike & P. L. ternasky (Eds.), *Ethics for professional in education : Perspectives for preparation and practice* (pp. 189-201) New York: Teachers College Press.
- NASH, R. J. 1996. "Real world " ethics : Frameworks for educators and human service professionals , New York , Teachers College Press.
- PADHAN, G.C. 1994. Moral values of social students in relation to different personal values , *Experiments In Education* , 22(8), pp 173-179.

- PADHAN, G.C. & THAKKAR 1994. Moral judgement among different types of school students in relation to intelligence and sex , Experiments In Education 22(2), pp 256-266.
- PARSON, T. 1931 The Social System, New York Press.
- PETERS, R. S. 1966. Ethics and Education. London · Allen &Unwin.
- SOCKETT, H. 1990. Accountability, trust, and ethical codes of practice. In J. Goodlad, R. Soder, & K. Sirotnik (Eds.), The moral dimesions of teaching (pp. 224-250). San Francisco : Jossey-Bass.
- SOCKETT, H. (Ed.) 2006. Teacher dispositions : Building a teacher education framework of moral standards . Washington, DC : American association of College Teacher Education.
- SRIVASTAV, S.K. 1994. values in relation to personality traits and self concept. The creative Psychologists. 6(1&2), 31-37
- STRIKE, K. A. & TTERNASKY, P. L. (Ed.) 1993 Ethics for professionals in education : Perspectives for preparation and practice, New York: Teachers College Press
- TRIPATHI, S. N. 1996 Children's Views On Right And Wrong . The Primary Teacher. 21(1), 15-19.
- WATRAS, J , 1986. Will teaching applied ethics improve schools of education? Journal of Teacher Education, 37(3), 13-16.

Women's access to higher education: a case study of Vidyasagar University Post-Graduates

Asis Kumar Dandapat¹ and Debjani Sengupta²

Abstract: *The paper examines women's representation in higher education in Vidyasagar University in West Bengal during the period 1990-91 to 2007-08. To be more specific, it examines the expansion and growth of women's higher education in terms of enrolment and subject choices. The results show that— (i) the period 1990-91 to 2007-08 witnessed an enormous expansion of enrolment of post-graduates and it has been more profound for females as compared to males (ii) It was also observed that during the period 1990-91 to 2007-08, Women's access to higher education was characterized by clustering in courses that are either feminine, non-professional or having less job prospects, and (iii) Female growth index for science was higher than female arts growth index in recent period and it was primarily because of higher female enrollments in soft sciences such as bio-sciences.*

Keywords: Higher Education, Gender inequality, Access, Vidyasagar University, Soft Sciences

Introduction

Education has been identified as a decisive force in nation building as well as reconstruction of war-torn societies [Anderson, 1991; Bekalo et al, 2003]. More generally, it has been used as a tool for economic, political and social modernization by developing or transitional countries [Green, 1997; Buchert, 1998]. Higher education is essential for social and occupational mobility, for elite formation and for intellectual and personal development [Chanana, 2000] and for transformation of human beings into human capital, and instrument of production and economic growth and thereby well being of the people and societies [Becker, 1985; Amsden, 1989; Wade, 1990; World Bank, 1993], and producing a wide variety and huge magnitude of externalities [Schultz, 1988; Romer, 1986, 1990; Lucas, 1988]. Higher education is of increasing strategic importance in the new environment of knowledge-based, information technology-based and globalizing economies [Pohjola, 2002; IGIDR 1999-2000]. After all, only those societies could reap gains of globalization that have strong and widespread higher education systems and vice versa [Bezborah, 2006; Bharadwaj, 2006; Tilak, 2005]. Over the years, however, Social Scientists mentioned that gender is a crucial category that deserves attention in the education-equality paradigm [Abu-Ghaida and Klasen, 2004; World Bank, 2001; UNESCO, 2003; Muller, 2005]. Women, who constitute around fifty percent of the total population of the nation, face many types of inequality. Right from birth and sometimes even before birth, differential treatment is meted out to the boy and girl and the girl child is rarely allowed to develop at par with her brother [Bardhan, 1974,

¹ Assistant Professor in Economics, V. T. T. College, Midnapore-721 101, West Bengal

² Professor, Department of Education, University of Calcutta, Kolkata-700 027

1984, 1988; Miller, 1981; Dreze and Sen, 1989; Coale, 1991]. This imbibes in the women a feeling of dependency, lack of self-confidence and limited decision making capacity. Even when there is relatively little difference in basic facilities including schooling, the opportunities of higher education may be far fewer for young women than for young men (Sen, 2001). On the other hand, higher education would contribute much more effectively in abolishing gender inequality by empowering women [Basu and Foster, 1998; Sharma, 2006]. This education-equality-empowerment paradigm prompted the present study.

Objectives

The main purpose of this study is to examine women's access to higher education in relation to enrollment and subject choices in Vidyasagar University (West Bengal) with a view to understand the dynamics of gender role stereotyping in our society.

Methodology

Enrolment record of post-graduate students in different faculties of Vidyasagar University during the period 1990 to 2007 served as the source of data. The particular university has been selected because of the multifaceted nature of the region in which it is situated. Firstly, per capita availability of colleges in this district is highest in West Bengal (Annual Report of Higher Education Department, West Bengal, 2008). Secondly, a large part of this district is rural, underdeveloped and inhabited by tribes (Annual Report, Vidyasagar University, 2009-10). Thirdly, this district is significant for its contribution to the past history and culture of Bengal.

Methods of growth index, growth rate, Moving Average and modified David Sopher's index were used for analysis of data. These measures are defined as follows:

Growth index is calculated by $G_t = \frac{Y_t}{Y_0} \times 100$ where Y_t = Current year enrolment of post-graduates and Y_0 = Base Year Enrolment of Post-graduates. Growth rate is calculated by the following formula: $g_t = \sum_{t=1}^n \frac{1}{n-1} \left(\frac{Y_t - Y_{t-1}}{Y_{t-1}} \right)$ where Y_t = Current Year Enrolment of students, Y_{t-1} = Previous Year Enrolment of students and n = number of years concerned.

David Sopher (1974) has proposed a special index which measures inequality may be written as follows: $D_s = \log \frac{X_2}{X_1} + \frac{\log(100 - X_1)}{\log(100 - X_2)}$ where X_1 is less than X_2 , X_1 represents the deprived section of a community i.e. here, the female students and X_2 are the residuals i.e. the

male students. Professor Amitava Kundu (2005) presented this with a small modification:

$$D_s^* = \log \frac{X_2}{X_1} + \frac{\log(Q - X_1)}{\log(Q - X_2)}. \text{ Where } Q \text{ is Less than or equal to } 200 \text{ and } X_1 \text{ is less than}$$

X_2 Now, the value of $D_s^* = \text{zero}$ that implies there is no inequality between female and male students; $D_s^* = \text{negative}$ that implies female students exceeds male students and $D_s^* = \text{positive}$ that implies male students exceeds female students.

Results and Discussion

Analysis of data may be summarized into two sections. In Section I a macro analysis was done with year wise total enrolment data to conduct a trend analysis on women's access to Higher Education. Here the analysis is mainly statistical based on growth indices, growth rate and trend value by the moving averages. Section II presents a micro analysis of enrolment data across subject disciplines to understand the nuances of socio-economic-cultural dynamics behind women's access to Higher Education with an emphasis on qualitative dimension of data analysis.

Section I

As mentioned before this section deals with the trend analysis which has been analyzed with the help of growth indices and growth rate. The result has been cross checked with trend values computed by the method of moving average (Goon, Gupta and Dasgupta).

Two faculties could provide consistent record regarding student enrolment for the intended period—the faculty of Arts & Commerce and the faculty of Science. However, the data was analyzed as per faculties of Arts, Science and Commerce.

Table 1.1 shows the faculty and gender wise pattern of students' enrolment in Vidyasagar University for the period 1990-91 to 2007-08. It shows that 63% of the post-graduates are males and 37% of the post-graduates are females during the entire period under study.

Table 1.1: Enrolments of post-graduate students in different faculties (1990-2007)

| Arts | | Science | | Commerce | | Total | |
|-----------------|-----------------|-----------------|-----------------|----------------|-------------|----------------|---------------|
| Male | Female | Male | Female | Male | Female | Male | Female |
| 7561 (34.1%) | 5667 (25.6%) | 4541 (20.5%) | 2313 (10.4%) | 1847 (8.3%) | 232 (1%) | 13949 (63%) | 8212 (37%) |

The table also shows that the trend of enrolment is same for male and female students with the highest in Arts and lowest in Commerce faculty.

The data in Table 1.2 documents the growth of enrolment in higher education in Vidyasagar University both for males and females. It is evident from the table that the period 1990-91 to 2007-08 witnessed an enormous expansion of enrolment but it has been more profound for females as compared to males. It can aptly be supported by their respective growth indices which show that for females the growth index¹ rose 302.9 while for males it increased to 215.5 only during the entire period under consideration. Moreover, the rise has been more consistent in case of females than males. These differential growth indices have further resulted in supporting the relative proportion of females in total enrolment from 29.8% in 1990-91 to 37.3% in 2007-08.

Table 1.2: Growth index of enrolments :1990-91 To 2007-08

| YEAR | ENROLMENT | | GROWTH INDEX(1990-91=100) | | % OF FEMALES IN TOTALS |
|---------|-----------|--------|---------------------------|--------|------------------------|
| | MALE | FEMALE | MALE | FEMALE | |
| 1990-91 | 566 | 240 | 100.0 | 100.0 | 29.8 |
| 1991-92 | 578 | 263 | 102.1 | 109.6 | 31.3 |
| 1992-93 | 559 | 251 | 98.8 | 104.6 | 31.0 |
| 1993-94 | 501 | 290 | 88.5 | 120.8 | 36.7 |
| 1994-95 | 553 | 295 | 97.7 | 122.9 | 34.8 |
| 1995-96 | 539 | 295 | 95.2 | 122.9 | 35.4 |
| 1996-97 | 508 | 319 | 89.8 | 132.9 | 38.6 |
| 1997-98 | 520 | 318 | 91.9 | 132.5 | 37.9 |
| 1998-99 | 612 | 353 | 108.1 | 147.1 | 36.6 |
| 1999-00 | 608 | 358 | 107.4 | 149.2 | 37.1 |
| 2000-01 | 595 | 351 | 105.1 | 146.3 | 37.1 |
| 2001-02 | 584 | 385 | 103.2 | 160.4 | 39.7 |
| 2002-03 | 1192 | 703 | 210.6 | 292.9 | 37.1 |
| 2003-04 | 1188 | 733 | 209.9 | 305.4 | 38.2 |
| 2004-05 | 1151 | 795 | 203.4 | 331.3 | 40.9 |
| 2005-06 | 1219 | 787 | 215.4 | 327.9 | 39.2 |
| 2006-07 | 1256 | 749 | 221.9 | 312.1 | 37.4 |
| 2007-08 | 1220 | 727 | 215.5 | 302.9 | 37.3 |

Table 1.3: Growth rate of University post-graduates by sex

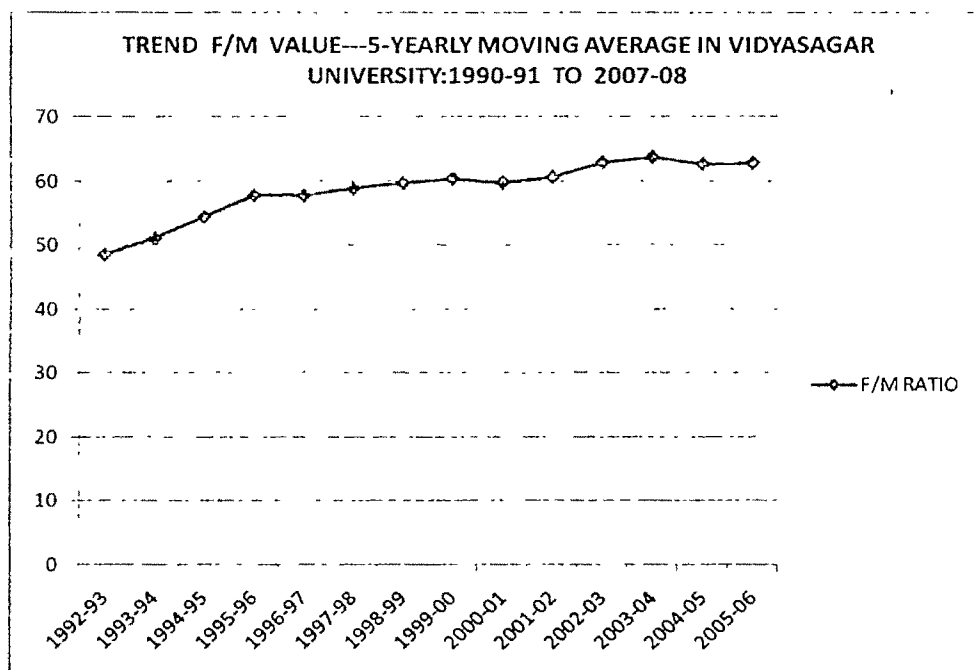
| | MALE | FEMALE |
|---------------------------|------------|----------|
| 1990-91 to 1995-96 | -0.74 | 4.5 |
| 1996-97 to 2001-02 | 1.6 | 4.7 |
| 2002-03 to 2007-08 | 17.8 | 14.4 |
| 1990-91 TO 2007-08 | 6.6 | 8 |

To trace the pace of expansion of education, the period 1990-91 to 2007-08 was divided in three parts i.e. from 1990-91 to 1995-1996, from 1996-97 to 2001-02 and from 2002-03 to 2007-08 and Table 1.3 illustrates this. It is seen from the Table 1.3 that for the male candidates, the rate of growth was negative (-.74%) during the period 1990-91 to 1995-96. This may be due to the fact that at that time the university was newly established and males were not interested to take admissions into the post-graduate classes in this university. It is heartening to note that the enrolment of females in these periods increased by rapid strides. The most striking highest growth rates (17.5 for males and 14.4 for females) are observed during the period 2002-03 to 2007-08. This may be due to the opening of post-graduate courses in a number of colleges and seat enhancement in the departments of the University. It should be mentioned that during the last three years i.e. 2005-06, 2006-07 and 2007-08, the growth indices of males are greater than females but the overall growth rate of females' enrolment is greater and more consistent than male students. Since the later observation is contrary to the popular belief, the authors choose to crosscheck the result with the help of Moving Average method. It is used, because in the moving average method, cyclical fluctuations are eliminated by calculating a number of averages, covering periods of the series in showing the female/male ratio trend.

Table 1.4: Determination of trend by the method of moving averages for female/male ratio in V. U.:1990-91 to 2007-08

| | | | <u>5-YEARLY MOVING AVERAGE</u> | | <u>TREND VALUE</u> |
|---------|------|--------|--------------------------------|------------------|--------------------|
| | MALE | FEMALE | M MOVING AVERAGE | F MOVING AVERAGE | F/M RATIO |
| 1990-91 | 566 | 240 | | | |
| 1991-92 | 578 | 263 | | | |
| 1992-93 | 559 | 251 | 551 | 268 | 48.57 |
| 1993-94 | 501 | 290 | 546 | 279 | 51.06 |
| 1994-95 | 553 | 295 | 532 | 290 | 54.51 |
| 1995-96 | 539 | 295 | 524 | 303 | 57.88 |
| 1996-97 | 508 | 319 | 546 | 316 | 57.83 |
| 1997-98 | 520 | 318 | 557 | 329 | 58.93 |
| 1998-99 | 612 | 353 | 569 | 340 | 59.76 |
| 1999-00 | 608 | 358 | 584 | 353 | 60.47 |
| 2000-01 | 595 | 351 | 718 | 430 | 59.87 |
| 2001-02 | 584 | 385 | 833 | 506 | 60.72 |
| 2002-03 | 1192 | 703 | 942 | 593 | 62.99 |
| 2003-04 | 1188 | 733 | 1067 | 681 | 63.8 |
| 2004-05 | 1151 | 795 | 1201 | 753 | 62.72 |
| 2005-06 | 1219 | 787 | 1206 | 758 | 62.87 |
| 2006-07 | 1256 | 749 | | | |
| 2007-08 | 1214 | 726 | | | |

By the 5-yearly moving average method we get the F/M ratio trend. This trend is a welcome one.



Again, when we compare the growth index across faculties (Table 1.5) it is observed that female growth indices are larger than male counterpart in the all faculties of arts, science and commerce and in the faculty of arts, it rose from 100 to 287.8, in the case of science, it rose from 100 to 330.2, and in the case of commerce, it rose from 100 to 460. It is observed that commerce growth index for female was maximum and female growth index for science was higher than female arts growth index. But as commerce female post-graduates are only 1% in relation to total post –graduates, we can drop this for our next analysis.

*Table 1.5 Post-graduates enrolments in three faculties of Vidyasagar University
1990-91 to 2007-08*

| | ARTS | | | | SCIENCE | | | | COMMERCE | | | |
|---------|------|------------|--------|------------|---------|------------|--------|------------|----------|------------|--------|------------|
| | MALE | M INDEX | FEMALE | F INDEX | MALE | M INDEX | FEMALE | F INDEX | MALE | M INDEX | FEMALE | F INDEX |
| 1990-91 | 304 | 100.0 | 172 | 100.0 | 184 | 100.0 | 63 | 100.0 | 78 | 100.0 | 5 | 100.0 |
| 1991-92 | 335 | 110.2 | 178 | 103.5 | 166 | 90.2 | 79 | 125.4 | 77 | 98.7 | 6 | 120.0 |
| 1992-93 | 309 | 101.6 | 174 | 101.2 | 174 | 94.6 | 76 | 120.6 | 76 | 97.4 | 1 | 20.0 |
| 1993-94 | 258 | 84.9 | 214 | 124.4 | 171 | 92.9 | 73 | 115.9 | 72 | 92.3 | 3 | 60.0 |
| 1994-95 | 301 | 99.0 | 212 | 123.3 | 176 | 95.7 | 78 | 123.8 | 76 | 97.4 | 5 | 100.0 |
| 1995-96 | 294 | 96.7 | 228 | 132.6 | 166 | 90.2 | 62 | 98.4 | 79 | 101.3 | 5 | 100.0 |
| 1996-97 | 257 | 84.5 | 243 | 141.3 | 173 | 94.0 | 71 | 112.7 | 78 | 100.0 | 5 | 100.0 |
| 1997-98 | 269 | 88.5 | 225 | 130.8 | 174 | 94.6 | 84 | 133.3 | 77 | 98.7 | 9 | 180.0 |
| 1998-99 | 330 | 108.6 | 241 | 140.1 | 194 | 105.4 | 105 | 166.7 | 88 | 112.8 | 7 | 140.0 |
| 1999-00 | 303 | 99.7 | 254 | 147.7 | 215 | 116.8 | 96 | 152.4 | 90 | 115.4 | 8 | 160.0 |
| 2000-01 | 316 | 103.9 | 241 | 140.1 | 198 | 107.6 | 99 | 157.1 | 81 | 103.8 | 11 | 220.0 |
| 2001-02 | 327 | 107.6 | 255 | 148.3 | 186 | 101.1 | 110 | 174.6 | 71 | 91.0 | 20 | 400.0 |
| 2002-03 | 637 | 209.5 | 493 | 286.6 | 396 | 215.2 | 189 | 300.0 | 159 | 203.8 | 21 | 420.0 |
| 2003-04 | 643 | 211.5 | 504 | 293.0 | 384 | 208.7 | 212 | 336.5 | 161 | 206.4 | 17 | 340.0 |
| 2004-05 | 623 | 204.9 | 537 | 312.2 | 375 | 203.8 | 231 | 366.7 | 153 | 196.2 | 27 | 540.0 |
| 2005-06 | 673 | 221.4 | 520 | 302.3 | 385 | 209.2 | 238 | 377.8 | 161 | 206.4 | 29 | 580.0 |
| 2006-07 | 706 | 232.2 | 480 | 279.1 | 398 | 216.3 | 239 | 379.4 | 152 | 194.9 | 30 | 600.0 |
| 2007-08 | 676 | 222.4 | 495 | 287.8 | 420 | 228.3 | 208 | 330.2 | 118 | 151.3 | 23 | 460.0 |
| TOTAL | 7561 | 2487.2 | 5667 | 3294.8 | 4541 | 2467.9 | 2313 | 3671.4 | 1847 | 2367.9 | 232 | 4640.0 |

Section II

This section aims to analyze the trend in subject choice of students in higher education with special reference to women. Faculty-wise enrolment in higher education is an important indicator for showing the skill composition of future human resources. It helps the policy planners in balancing the supply of skilled manpower with demand for skilled manpower by generating employment accordingly. A higher proportion of enrolment in professional and science education is being regarded an important indicator of human resource development (Saxena, 88-89).

Table 1.6 presents subject-wise enrolment pattern in the faculty of arts.

Table 1.6: Subject-wise enrolment pattern in the faculty of arts .1990-91 to 2007-08

| | M | F | TOTAL | <u>FEMALE-MALE RATIO</u> | | <u>SUBJECTS PROPORTION FEMALE</u> | | <u>SUBJECTS PROPORTION MALE</u> | | D _s * |
|-------------|------|------|-------|------------------------------|------|-------------------------------------------|------|-----------------------------------------|------|------------------|
| | | | | F/M*100 | RANK | F1/F TOTAL*100 | RANK | M1/M TOTAL*100 | RANK | |
| BENGALI | 1177 | 1072 | 2249 | 91.08 | 2 | 18.92 | 2 | 15.57 | 4 | 0.05 |
| ENGLISH | 1429 | 802 | 2231 | 56.12 | 5 | 14.15 | 5 | 18.90 | 1 | 0.33 |
| HISTORY | 1365 | 923 | 2288 | 67.62 | 4 | 16.29 | 3 | 18.05 | 2 | 0.23 |
| PHILOSOPHY | 834 | 1398 | 2232 | 167.63 | 1 | 24.67 | 1 | 11.03 | 6 | -0.30 |
| POL SCIENCE | 1213 | 900 | 2113 | 74.20 | 3 | 15.88 | 4 | 16.04 | 3 | 0.17 |
| ECONOMICS | 931 | 336 | 1267 | 36.09 | 8 | 5.93 | 6 | 12.31 | 5 | 0.58 |
| BLIBSC | 441 | 169 | 610 | 38.32 | 7 | 2.98 | 7 | 5.83 | 7 | 0.55 |
| MLIBSC | 171 | 67 | 238 | 39.18 | 6 | 1.18 | 8 | 2.26 | 8 | 0.53 |
| TOTAL | 7561 | 5667 | 13228 | 74.95 | | 100.00 | | 100.00 | | 0.17 |

A look at the proportions of male and female students enrolled in different subjects in relation to total enrollments of males and females (table 1.6) showed results that gender effect among the students is very pronounced in the choices of subjects in higher education. In the arts faculty, male enrolments were 7561(57%) and female enrolments were 5667(43%). For females, Philosophy emerged as the first choice able subject where female students enrolments exceeds male students as pointed out by the F/M ratio (167.63) and also by negative D_s* value (-.30). Philosophy, Bengali, History and Political science are among the first four ranked choice able subjects of arts faculty among female post-graduates. 25% of the female post-graduates studied Philosophy, 19% studied Bengali, and 16% studied Political science and so on. Hence, more than 40% of female post-graduates were enrolled in the

subjects of Philosophy and Political science which offer a lesser variety of job openings. For male post-graduates, over the entire period, English was the first choice among male post-graduates and higher proportions of males got admitted to English, History, Political science and Bengali. More than 67% of the male post-graduates were enrolled in these subjects.

In the case of Economics, B lib sc and M lib sc, the highest three David Sopher's inequality (Ds*) values were given by 0.58, 0.55 and 0.53 respectively which indicates that more male students are concentrating in the subject of Economics, B lib sc and M lib sc.

The extent of consistency in subject choices across time is shown in Table-1.7

Table 1.7: Relative positions of male and female students in the faculty of arts

| | 1990-91 to 1995-96 | | | | | | | | D _s * |
|-------------------|--------------------|-----|-----------|------|------------|------|------------|------|------------------|
| | M | F | (F/M)*100 | RANK | (M1/M)*100 | RANK | (F1/F)*100 | RANK | |
| BENGALI | 49 | 32 | 65.3 | 3 | 16.3 | 2 | 16.3 | 3 | 0.25 |
| ENGLISH | 52 | 25 | 48.1 | 5 | 17.3 | 1 | 12.8 | 5 | 0.42 |
| HISTORY | 48 | 34 | 70.8 | 2 | 15.9 | 3 | 17.3 | 2 | 0.20 |
| PHILOSOPHY | 28 | 52 | 185.7 | 1 | 9.3 | 6 | 26.5 | 1 | -0.36 |
| ECONOMICS | 45 | 11 | 24.4 | 8 | 15.0 | 5 | 5.6 | 6 | 0.79 |
| POLITICAL SCIENCE | 48 | 31 | 64.6 | 4 | 15.9 | 4 | 15.8 | 4 | 0.25 |
| B.LIB SC. | 23 | 8 | 34.8 | 7 | 7.6 | 7 | 4.1 | 7 | 0.60 |
| M.LIB SC. | 8 | 3 | 37.5 | 6 | 2.7 | 8 | 1.5 | 8 | 0.56 |
| TOTAL | 301 | 196 | 65.1 | | 100 | | 100 | | 0.25 |
| | 1996-97 to 2001-02 | | | | | | | | |
| | M | F | (F/M)*100 | RANK | (M1/M)*100 | RANK | (F1/F)*100 | RANK | |
| BENGALI | 44 | 44 | 100 | 2 | 14.6 | 4 | 18.0 | 2 | 0.00 |
| ENGLISH | 59 | 32 | 54.2 | 5 | 19.6 | 1 | 13.0 | 5 | 0.35 |
| HISTORY | 54 | 41 | 75.9 | 4 | 17.9 | 2 | 16.0 | 4 | 0.16 |
| PHILOSOPHY | 25 | 60 | 240.0 | 1 | 8.3 | 7 | 24.0 | 1 | -0.50 |
| ECONOMICS | 36 | 13 | 36.1 | 7 | 12.0 | 5 | 5.0 | 6 | 0.58 |
| POLITICAL SCIENCE | 45 | 43 | 95.6 | 3 | 15.0 | 3 | 17.0 | 3 | 0.03 |
| B LIB SC | 27 | 7 | 25.9 | 8 | 9.0 | 6 | 3.0 | 7 | 0.76 |
| M.LIB SC. | 11 | 4 | 36.4 | 6 | 3.7 | 8 | 1.6 | 8 | 0.58 |
| TOTAL | 301 | 244 | 81.1 | | 100 | | 100 | | 0.12 |
| | 2002-03 TO 2007-08 | | | | | | | | |
| | M | F | (F/M)*100 | RANK | (M1/M)*100 | RANK | (F1/F)*100 | RANK | |
| BENGALI | 104 | 103 | 99.0 | 2 | 15.8 | 4 | 20.4 | 2 | 0.01 |

| | | | | | | | | | |
|-------------------|-----|-----|-------|---|------|---|------|---|-------|
| ENGLISH | 127 | 77 | 60.6 | 5 | 19.3 | 1 | 15.2 | 4 | 0.29 |
| HISTORY | 126 | 79 | 62.7 | 4 | 19.1 | 2 | 15.6 | 3 | 0.27 |
| PHILOSOPHY | 86 | 122 | 141.9 | 1 | 13.1 | 5 | 24.1 | 1 | -0.20 |
| ECONOMICS | 72 | 32 | 44.4 | 7 | 10.9 | 6 | 6.3 | 6 | 0.46 |
| POLITICAL SCIENCE | 110 | 76 | 69.1 | 3 | 16.7 | 3 | 15.0 | 5 | 0.21 |
| B.LIB SC. | 23 | 13 | 56.5 | 6 | 3.5 | 7 | 2.6 | 7 | 0.33 |
| M.LIB.SC. | 11 | 4 | 36.4 | 8 | 1.7 | 8 | 0.8 | 8 | 0.58 |
| TOTAL | 659 | 506 | 76.8 | | 100 | | 100 | | 0.15 |

The rank of the proportions of males and females enrolled in different subjects in relation to total enrollments of males and females in three different periods have been summarized in Box 1.1 and Box 1.2.

Box 1.1: Rank of the Subjects' proportions among male post-graduates in Arts faculty

| 1990-91 TO 1995-96 | 1996-97 TO 2001-02 | 2002-03 TO 2007-08 |
|---------------------|----------------------|----------------------|
| 1.ENGLISH | 1.ENGLISH | 1.ENGLISH |
| 2.BENGALI | 2. HISTORY | 2. HISTORY |
| 3.HISTORY | 3. POLITICAL SCIENCE | 3. POLITICAL SCIENCE |
| 4.POLITICAL SCIENCE | 4. BENGALI | 4. BENGALI |
| 5.ECONOMICS | 5.ECONOMICS | 5. PHILOSOPHY |
| 6.PHILOSOPHY | 6.B LIB SC | 6.ECONOMICS |
| 7. B LIB SC | 7. PHILOSOPHY | 7.B LIB SC |
| 8.M LIB SC | 8. M LIB SC | 8. M LIB SC |

Box 1.2: Rank of the Subjects' proportions among female post-graduates in Arts faculty

| 1990-91 TO 1995-96 | 1996-97 TO 2001-02 | 2002-03 TO 2007-08 |
|----------------------|----------------------|----------------------|
| 1. PHILOSOPHY | 1. PHILOSOPHY | 1. PHILOSOPHY |
| 2. HISTORY | 2. BENGALI | 2. BENGALI |
| 3. BENGALI | 3. POLITICAL SCIENCE | 3. HISTORY |
| 4. POLITICAL SCIENCE | 4. HISTORY | 4. ENGLISH |
| 5. ENGLISH | 5. ENGLISH | 5. POLITICAL SCIENCE |
| 6. ECONOMICS | 6. ECONOMICS | 6. ECONOMICS |
| 7. B LIB SC | 7. B LIB SC | 7. B LIB SC |
| 8. M LIB SC | 8. M LIB SC | 8. M LIB SC |

From Table 1.7, box 1.1 and box 1.2, it is observed that

- English was the first choice among male post-graduates whereas Philosophy is the first choice among female post-graduates and M lib sc is the last choice among the male and female post-graduates under the specified periods.
- Relative ranking of English(1st), History(2nd), Political science(3rd) and Bengali(4th) remained the same during both the second (1996-97 to 2001-02) and third (2002-03 to 2007-08) periods among the male post-graduates. For females, relative ranking of the three subjects' viz. Economics, B lib sc and M lib sc remained the last during the entire three periods among the female post-graduates.
- Male concentration (i.e. M1/M) was continuously increased in the subject of History and it was continuously decreased in the subject of Economics during the three periods whereas Female concentration in the subjects of Bengali and English are continuously increasing.

Table 1.8 presents subject-wise enrolment pattern in the faculty of science of Vidyasagar University during the period 1990-91 to 2007-08.

**Table 1.8: Subject-wise enrolment pattern in the faculty of science:
1990-91 to 2007-08**

| SUBJECTS | NUMBER OF STUDENTS | | | FEMALE-MALE RATIO | | SUBJECT PROPORTIONS FEMALES | | SUBJECT PROPORTIONS MALES | | D _s |
|--------------|--------------------|--------|-------|----------------------|------|-----------------------------------|------|---------------------------------|------|----------------|
| | MALE | FEMALE | TOTAL | (F/M)*100 | RANK | (F1/ F*100 | RANK | M1/M*100 | RANK | |
| MATHEMATICS | 1294 | 289 | 1583 | 22.3 | 7 | 12.3 | 5 | 28.5 | 1 | 0.464 |
| PHYSICS | 875 | 212 | 1087 | 24.2 | 6 | 9.0 | 6 | 19.3 | 2 | 0.437 |
| CHEMISTRY | 732 | 194 | 926 | 26.5 | 5 | 8.2 | 7 | 16.1 | 3 | 0.406 |
| ZOOLOGY | 486 | 476 | 962 | 97.9 | 3 | 20.2 | 2 | 10.7 | 4 | 0.006 |
| BOTANY | 462 | 485 | 947 | 105.0 | 2 | 20.6 | 1 | 10.2 | 5 | -0.014 |
| PHYSIOLOGY | 339 | 373 | 712 | 110.0 | 1 | 15.8 | 3 | 7.5 | 7 | -0.028 |
| ANTHROPOLOGY | 353 | 325 | 678 | 92.1 | 4 | 13.8 | 4 | 7.8 | 6 | 0.024 |
| TOTAL | 4541 | 2354 | 6895 | 51.8 | | 100.0 | | 100 | | 0.193 |

In the Science Faculty, males' enrolments were 4541(66%) and females' enrolments were 2354(34 %). In the case of Physiology and Botany, female post-graduates exceeds male students as pointed out by the F/M ratio 110 and 105 respectively and also by the negative values of David Sopher's inequality (-0.014 and -0.028). For females, Botany emerged as the first choice able subject and Botany, Zoology, Physiology and Anthropology are among the first four ranked choice able subjects of science faculty among female post-graduates. 20.6% of the female post-graduates studied Botany, 20.2% studied Zoology, 15.8% studied

Physiology and 13.8% studied Anthropology and so on. Hence, more than 70% of female post-graduates were enrolled in the soft science subject's viz. Botany, Zoology, Physiology and Anthropology which may have some relation with gender stereotyping. For male post-graduates, over the entire period concerned, Mathematics was the first choice among male post-graduates and higher proportions of males got admitted to Mathematics, Physics and Chemistry. About 64% of the male post-graduates were enrolled in these subjects.

In the case of natural sciences, viz. Mathematics, Physics and Chemistry, the highest three David Sopher's inequality values were given by 0.464, 0.437 and 0.406 respectively which indicates more male post-graduates than females are concentrating in the subjects of Mathematics, Physics and Chemistry. The extent of consistency in subject choices across time in Science faculty is shown Table-1.9

Table 1.9: Relative positions of male and female students in the faculty of science : 1990-91 to 2007-08

| 1990-91 TO 1995-96 | | | | | | | | | D _i * |
|--------------------|-----|----|---------|------|----------|------|----------|------|------------------|
| | M | F | F/M*100 | RANK | M1/M*100 | RANK | F1/F*100 | RANK | |
| MATH | 45 | 8 | 17.8 | 7 | 26.2 | 1 | 11.1 | 4 | 0.96 |
| PHY | 25 | 6 | 24.0 | 5 | 14.5 | 3 | 8.3 | 6 | 0.80 |
| CHEM | 27 | 5 | 18.5 | 6 | 15.7 | 2 | 6.9 | 7 | 0.94 |
| ZOO | 23 | 14 | 60.9 | 3 | 13.4 | 4 | 19.4 | 3 | 0.29 |
| BOT | 21 | 17 | 81.0 | 2 | 12.2 | 5 | 23.6 | 1 | 0.12 |
| PHYSIO | 13 | 6 | 46.2 | 4 | 7.6 | 7 | 8.3 | 5 | 0.44 |
| ANTHRO | 18 | 16 | 88.9 | 1 | 10.5 | 6 | 22.2 | 2 | 0.47 |
| TOTAL | 172 | 72 | 41.9 | | 100.0 | | 100.0 | | 0.50 |
| 1996-97 TO 2001-02 | | | | | | | | | |
| | M | F | F/M*100 | RANK | M1/M*100 | RANK | F1/F*100 | RANK | |
| MATH | 54 | 14 | 25.9 | 6 | 28.4 | 1 | 14.7 | 4 | 0.76 |
| PHY | 38 | 8 | 21.1 | 7 | 20.0 | 2 | 8.4 | 7 | 0.87 |
| CHEM | 32 | 9 | 28.1 | 5 | 16.8 | 3 | 9.5 | 6 | 0.72 |
| ZOO | 22 | 19 | 86.4 | 3 | 11.6 | 4 | 20.0 | 2 | 0.08 |
| BOT | 19 | 20 | 105.3 | 2 | 10.0 | 5 | 21.1 | 1 | 0.03 |
| PHYSIO | 12 | 15 | 125.0 | 1 | 6.3 | 7 | 15.8 | 3 | 0.13 |
| ANTHRO | 13 | 10 | 76.9 | 4 | 6.8 | 6 | 10.5 | 5 | 0.15 |
| TOTAL | 190 | 95 | 50 | | 100 | | 100 | | 0.40 |

| 2002-03 TO 2007-08 | | | | | | | | | |
|--------------------|-----|-----|---------|------|----------|------|----------|------|-----------|
| | M | F | F/M*100 | RANK | M1/M*100 | RANK | F1/F*100 | RANK | |
| MATH | 117 | 27 | 23.1 | 7 | 29.6 | 1 | 11.7 | 5 | 0.82 |
| PHY | 83 | 23 | 27.7 | 6 | 21.0 | 2 | 10.0 | 6 | 0.72 |
| CHEM | 63 | 19 | 30.2 | 5 | 15.9 | 3 | 8.3 | 7 | 0.68 |
| ZOO | 38 | 44 | 115.8 | 3 | 9.6 | 4 | 19.1 | 2 | - 0.08 |
| BOT | 37 | 47 | 127.0 | 2 | 9.4 | 5 | 20.4 | 1 | - 0.14 |
| PHYSIO | 30 | 40 | 133.3 | 1 | 7.6 | 6 | 17.4 | 3 | - 0.17 |
| ANTHRO | 27 | 30 | 111.1 | 4 | 6.8 | 7 | 13.0 | 4 | - 0.06 |
| TOTAL | 395 | 230 | 58.2 | | 100.0 | | 100.0 | | 0.31 |

A look at the rank of the proportions of male and female students enrolled in different subjects in science faculty in relation to total enrollments of males and females in three different periods have been summarized in Box 1.3 and Box 1.4.

Box 1.3: Rank of the Subjects' proportions among male post-graduates in Science faculty

| 1990-91 TO 1995-96 | 1996-97 TO 2001-02 | 2002-03 TO 2007-08 |
|----------------------|----------------------|----------------------|
| 1.Mathematics | 1.Mathematics | 1.Mathematics |
| 2.Chemistry | 2.Physics | 2.Physics |
| 3.Physics | 3. Chemistry | 3. Chemistry |
| 4.Zoology | 4.Zoology | 4.Zoology |
| 5.Botany | 5.Botany | 5.Botany |
| 6.Anthropology | 6.Anthropology | 6. Physiology |
| 7. Physiology | 7. Physiology | 7. Anthropology |

Box 1.4: Rank of the Subjects' proportions among female post-graduates in Science faculty

| 1990-91 TO 1995-96 | 1996-97 TO 2001-02 | 2002-03 TO 2007-08 |
|--------------------|----------------------|----------------------|
| 1.Botany | 1. Botany | 1. Botany |
| 2.Anthropology | 2. Zoology | 2. Zoology |
| 3.Zoology | 3. Physiology | 3. Physiology |
| 4.Mathematics | 4.Mathematics | 4.Anthropology |
| 5.Physiology | 5.Anthropology | 5.Mathematics |
| 6. Physics | 6.Chemistry | 6.Physics |

From table 1.9, box 1.3 and box 1.4, it can be said that

- a) Mathematics was the first choice and Zoology and Botany was the 4TH and 5TH choice among male post-graduates whereas Botany had the first choice among the female post-graduates all through.
- b) Mathematics, Physics and Chemistry were first three choice-able subjects among male post-graduates during the entire period.
- c) Relative ranking of mathematics(1st), physics(2nd), chemistry(3rd), zoology(4th) and botany(5th) remained the same among male students whereas the relative ranking of Botany(1st), Zoology(2nd) and Physiology(3rd) remained the same among female students during both the second (1996-97 to 2001-02) and third (2002-03 to 2007-08) periods.
- d) Male concentration (i.e. M1/M) was continuously increased in the subject of Mathematics and Physics and It was continuously decreased in the subject of Zoology, Botany and Anthropology during the three periods among male post-graduates whereas Female concentration in the subjects of Physiology and Physics are continuously increasing and Female concentration in the subject of Botany are continuously decreasing.

From Table 1.9, it is observed that the value of inequality(Ds*) was negative (i.e. in favor of females) in the subjects of physiology and botany during the period 1996-97 to 2001-02 which indicates female students out scripts male students in these two subjects. However, during the period 2002-03 to 2007-08, these values of inequality covers negative values for soft sciences viz. Physiology, Botany, Zoology and Anthropology which implies female enrolments exceeds male enrolments in these four subjects.

In the above analysis, we have discussed that female enrolments in the science subjects are increasing. But here it is observed that enhancement in female enrolment occurs mainly in the case of soft sciences only.

Conclusion

This article has tried to substantiate the situation relating to Women's access to higher education in Vidyasagar University. From the quantitative analysis, it is evident that the period 1990-91 to 2007-08 witnessed an enormous expansion of enrolment of post-graduates but it has been more profound for females as compared to males. It can aptly be supported by their respective growth indices and trend. From the qualitative analysis it can be inferred that during the period 1990-91 to 2007-08, Women's access to higher education was characterized by clustering in the so-called "feminine", "non-professional" and "non-market" courses. Within arts faculty, more than 40% of female arts post-graduates were clustering in

the subjects of Philosophy and Political Science and within science, more than 70% of female science post-graduates were enrolled in the soft sciences viz. Botany, Zoology, Physiology and Anthropology. This clustering of Female post-graduates in specific subjects leads to their occupational segregation later in life, restrictions on opportunities open to women, lower chances of doing paid work, earning less than men, losing jobs when technical innovations are introduced and so on. Even the teaching jobs prospective in these subjects are very limited.

Women seem to have been the beneficiaries of this expansion, though it is difficult to come to this conclusion without separate gender based enrolment data for public and private institutions and for each and every discipline and academic programme separately. Because until the liberalization of the economy in 1991, higher education was publicly funded by the federal/central and provincial/state governments. Since 1991 the policies of the government have dramatically changed with regard to seemingly privileged position of higher education, and private autonomous institutions were permitted to be set up on a liberal scale (Anandkrishnan ,2004).Most of the private institutes offer professional courses as these are more popular and lucrative(Singh,2008). Privatization has deepened the gender gap further. In recent times, Private Professional Education is given to the boys, city based and single child girl students. Resultantly, more women are taking up courses in general education as these are easily available and are cheaper as compared to professional courses (Chakraborty, 2009). Hence, the policy implications of the current situation of women suggest the imperative of creating a broad-based database on higher education which is gender sensitive and also the jobs prospective.

References

- ANANDAKRISHNAN, M. 2004. Equity, Quality and Quantity, In Issues in Higher Education, Vol. II., Hyderabad .The ICFAI Press. Pp. 18-35
- BAGCHI, J 2005. The Changing Status of Women in West Bengal, 1970-2000: The Challenge Ahead, New Delhi: Sage Publications.
- CHANANA, K. 2000. Treading the hallowed halls: Women in higher education in India, Economic and Political Weekly, Vol. 35(12). Pp.1012-1022
- CHAKRABORTY, A. 2009. Determinants of Participation in Higher Education and Choice of Disciplines: Evidence from Urban and Rural Indian Youth, South Asia Economic Journal, 10:2. Pp 371-402
- DREZE, J. AND SEN, A. 2002. India: Development and Participation, New Delhi: Oxford University Press.
- KALAM, A.P.J. 2006. Innovation is the Key, *Yojana*, February, PP. 2- 4.
- KINGDON, G.G. 2002. The Gender gap in Educational Attainment in India : How much can be Explained ? The Journal of Development Studies, 39 (2). Pp 25 – 53.
- KUNDU, A. 2003. Measurement of inequity in Education, In Tilak J.B G (ed.) Education, Society and Development (National and International perspectives), New Delhi :NIEPA & APH publishing corporation.
- MULLER,T.R.2006. Education for Social Change : Girls Secondary Schooling in Eritrea, Development and Change 37(2). Pp 353-373
- POONACHA, V. 2005. Uncovering the Gender politics of Science policies and Education, Economic and Political Weekly, January15.
- SEN, A. 2001. Many faces of Gender Inequality, *Frontline*, November, 9.
- SAXENA, P.K. 1988-89. Recent Enrolment Trends In Higher Education In India, In Journal Of Higher Education, Vol. 14 Nos. 1-3.
- TILAK, J.B.G. (ed.) 2003. *Education, Society and Development (National and International perspectives)*, New Delhi : NIEPA & APH publishing Corporation.

RESEARCH ABSTRACTS

Computer Programming, Creativity and Intelligence

| | |
|-----------------------------------|----------------------------------------------------------------------------|
| Title | A study of computer programming in relation to creativity and intelligence |
| Research Scholar | Rita SinhaRay |
| Super visor | Dr. P. Som |
| Department | Education, Calcutta University |
| Degree Awarded | Ph.D. 2010 |
| Availability of the thesis | Central Library, Calcutta University |

No understanding of contemporary history of human thought is possible without recognizing the importance of computer in day-to-day activities. Computer is a wonderful expression of human creativity and intellect. Obviously, computer (hardware and software), creativity and intelligence constitute an important area of investigation. The present study is a survey type of research relating to computer programming ability of persons aged 18-30 years. It is a very broad study on the relationship between computer programming, creativity and intelligence along with their sub-dimensions involving multivariate analyses and other statistical techniques. The purpose of the study is to identify the creativity and intelligence variables that are significantly related to computer programming. The present study attempts to find out the contribution of creativity and intelligence towards computer programming. The study is delimited to a sample of persons pursuing or conducting computer programming courses in Kolkata and its adjoining areas. The following tools have been employed in the study:

- A Computer Program Test on Computer Program
- Torrance Test of Creative Thinking (Verbal)
- P.N. Mehrotra's Mixed Type Group Test of Intelligence,

over a sample size of 400 (200 female and 200 male) taken in and Kolkata. C-Language Programming test was prepared by the investigator herself. Appropriate steps have been taken to collect data and organize them. Statistical techniques like descriptive statistics (mean, SD, Sk, Ku) along with ANOVA, correlation coefficients, multi-variate regression analysis (linear) and appropriate tests of significance (e.g. t-test, F- Ratio) to test the

hypotheses of the study were employed. The study yielded a number of interesting findings like-

- The sex sub-samples possess more or less the same level of programming skill.
- Males are more elaborative than the females and also tend to be more creative.
- In terms of intelligence variables, the male occupies a superior position in most of its dimensions excepting number series.
- Intelligence in comparison to creativity plays a major role in solving programming problems.
- Level of contribution of various factors to programming varies.

The findings of the study, in course of time might be used in the selection process of future programmers and also in the field of psychology of computer education.

Field Based Participatory Activity in Environmental Education

| | |
|-----------------------------------|---------------------------------------------------------------------------------------|
| Title | An Impact Assessment of Field Based Participatory Activity in Environmental Education |
| Research Scholar | Mrinal Mukhopadhyay |
| Super visor | Dr. Madhumala Sengupta |
| Department | Education, Calcutta University |
| Degree Awarded | Ph.D. 2010 |
| Availability of the thesis | Central Library, Calcutta University |

The Problem- The present study seeks to find out the impact of field based participatory activity on the development of environmental awareness, related behaviour and environmental curricular knowledge. The relation with academic achievement with these variables is also studied.

The Objectives- The objectives of the study are to find out the differences between students studying in schools with Environment Oriented Programmes (EOP) and students studying in schools with no such programmes (NON EOP) in respect of different variables. The research seeks to predict the efficacy EOP schools over NON EOP schools in the context of environmental education.

The Variables- The variables studied are environmental awareness, environmental action, environmental knowledge, field based activity method, habitat, gender and academic achievement.

Sample- The sample was drawn from 16 secondary schools situated in Kolkata and South 24 parganas. The size of the sample is 800 divided equally into eight strata viz. MBEOP, MBNON-EOP, MGEOP, MGNON-EOP, URBEOP, URBNON-EOP, URGEOP, and URGNON-EOP. In which M stands for metropolitan, B for boys, G for girls, UR for urbanized rural.

Tools- Tools used in the study are –An Achievement Test of Environment Related Knowledge prepared by M.Sengupta and M. Mukhopadhyay, Environmental Awareness scale and Environmental Action Scale prepared by Prof. P.K.Chakraborty and M.Sengupta, (2005) revised and standardized by M.Sengupta and M. Mukhopadhyay, (2006) and

percentage of marks obtained in life science, physical science and geography at annual examination of class VIII.

Hypothesis- On the basis of the objectives 12 hypotheses were framed.

Analysis- Apart from descriptive analysis for all sample groups and total groups ANOVA coefficient of correlation and Fischer's z were calculated to explain the relationship between different variables.

Findings and Discussion- The most important finding of the research is that the level of environmental awareness of the students belonging to EOP schools is significantly higher than that of NONEOP schools. However, no significant difference in the two was found in environmental action scores. Environmental knowledge scores were also observed to be significantly higher in case of EOP school students. The correlation between action and awareness scores is positive but weak. This finding is consistent with the earlier researches. The degree of correlation between these two scores is significantly different for EOP and NONEOP school students indicating an impact of inclusion of environment oriented programmes on environmental education.

Primary Education in the Homes

| | |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Title | A comparative study of the education of the inmates in the different government aided homes in West Bengal and that of the students of the local primary schools |
| Research Scholar | Debjani Ghosh |
| Supervisor | Professor Mita Banerjee |
| Department | Education, Calcutta University |
| Degree Awarded | Ph.D. 2010 |
| Availability of the thesis | Central Library, Calcutta University |

The Problem

The study proposed to cover the Primary education provided through the Government Aided Homes in West Bengal and to compare the same with the existing Government Aided Primary Schools of the same locality where the Home is situated. With the establishment of Homes, separate education of the inmates of the Homes were felt as the Primary Schools that were already running in these areas were not ready to accept the inmates of the Homes. As a result of this the Homes themselves had to establish lower Primary Schools within their own campus to provide Primary education to their inmates.

The Objective

The objective of the study was to carry out a comparative study between the Primary education provided in the Government Aided Homes with that of the Government Aided Primary Schools of the same locality in respect of School Organizational Aspects, Teaching and Supporting Aspects, Basic Learning Skills like Reading, Writing and Arithmetic.

Research Hypothesis

The hypothesis formulated was that there is no significant difference between the academic achievement of the students of class III and class IV respectively of the Homes and the local Primary Schools in the subject English, Bengali and Mathematics. A total number of two hundred students were selected from ten Homes (class III and IV) and ten Primary Schools (class III and IV) covering five districts of West Bengal (Kolkata, 24 Parganas North and South, Howrah, Hooghly).

Tools

Achievement tests on Mathematics and Language were developed by the researcher for Class III and Class IV

Findings

The researcher after collecting the data found that although the physical facilities and the teaching and supporting aspects are more or less same in all the Homes and Primary Schools of the same locality still the students of the Primary Schools lagged far behind the students of the Homes in case of general achievement in all the subjects. This poor performance in the part of the students of the Primary Schools is mainly due to their socio-economic background as they have to do manual work in order to help their families because of which they could not pay full attention to education. On the other hand the students of the Homes can fully concentrate on their education as their total responsibility is taken by the Homes.

Rehabilitation of Street Children

| | |
|-----------------------------------|---------------------------------------------------------------------------|
| Title | Rehabilitation of the Street Children of Kolkata: An Analytical Study. |
| Research Scholar | Shabana Haydar |
| Super visor | Professor Mita Banerjee |
| Department | Education, Calcutta University |
| Degree Awarded | Ph.D. 2010 |
| Availability of the thesis | Central Library, Calcutta University |

Objectives of the study

1. To assess the role of the different agencies engaged in literacy drive of the Street Children in Kolkata.
2. To examine the extent to which the Street Children in Kolkata have attained literacy.
3. To asses the status of rehabilitation of the Street Children in Kolkata.

Samples:

Objectives1. Ten Non Government Organisations working with Street Children in Kolkata.

Objectives2. 100 students of grade one and 100 students of grade two Objective 3 Ten Non Government Organisations working with Street Children in Kolkata,

Tools

Objectives 1: A Questionnaire schedule, some Field visits

For Objectives 2: MLL or Minimum Literacy Level test on language in Bengali/English of 50 marks. MLL on mathematics 50 marks

For Objective 3: A questionnaire schedule, Field study and Observation

Main Findings:

1. 7 NGOs had projects running under the City Level Programme of Action CLPOA in association with the Kolkata Municipal Corporation (KMC). 4 NGOs had Integrated Programme for Street Children (IPSC) project running under the Government of India, Controller of Vagrancy. 1 NGO had project with Child's Rights and You.
2. NGOs made ward and locality wise inspection to enroll all the children. All the 10 NGOS had regular attendance, even in centres where there was no proper sitting-arrangement, no separate wall for two grades of learners.

3. 4 NGOs held classes inside school buildings, 6 NGOs had no building and classes were held in a single classroom that was a community clubroom, a garage room or a corporation school classroom. One NGO in one of its centre held classes on the streets in the absence of a proper room.
4. Only 4 NGOs had drinking water facility and provision for toilet and sanitation
5. All the NGOs had good supply of textbooks, blackboards, chalks, and dusters and teaching learning material TLM
6. 8 NGOs used interactive method of teaching using Puppet shows, play, songs toys, games to make teaching learning lively, but 2 NGOs used conventional and stereotype, the usual dull, lecture method of teaching.
7. The medium of instruction was Hindi, Bengali, Urdu or English according to the need of the children.
8. NGOs provided either midday meal or dry food packets to all the children.
9. 6 NGOs had provision for vaccination and immunization and regular (weekly or monthly) health checkups of all the enrolled children.
10. Most NGOs offered skill training, like sewing, stitching embroidery, painting, music, sewing, tailoring, batik painting, carpentry, learning electric work.
11. All the 10 NGOs provided children with health, nutrition, education, skill training counseling and recreational services as a part of rehabilitative service.

Rehabilitation of Visually Impaired Persons

| | |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Title | A Right to live with others - A Status Survey of Total Rehabilitation of Visually Impaired Persons in Calcutta and Suburban areas |
| Research Scholar | Runa Mukhopadhyay |
| Supervisor | Professor Debjani Sengupta |
| Department | Education, Calcutta University |
| Degree Awarded | Ph.D. 2010 |
| Availability of the thesis | Central Library, Calcutta University |

The Problem

Total rehabilitation means restoring of handicapped persons to the fullest possible physical, mental, social, vocational and economical usefulness of which they are capable. The present work aims to examine the status of total rehabilitation with respect to the visually impaired person residing in West Bengal.

The Objectives

1. To assess and compare the self-concept of employed and unemployed visually impaired persons.
2. To study and compare the attitude of employed and unemployed visually impaired persons, in the familial life and social life.
3. To study the perception of the parents about the role of the employed and unemployed visually impaired persons.
4. To study how far the available facilities for training contributes towards vocational rehabilitation.
5. To judge whether the existing training centers facilitate total rehabilitation of the Visually Impaired Persons.
6. To interpolate the status of total rehabilitation taking into account of the above mentioned components of rehabilitation.

Tools

Tennessee self concept scale

Open Ended Semi Structured Interview Schedule to assess Attitude towards life

Interview Schedule for Parental Perception

Data Sheet for the Training Institute

Checklist to examine the infrastructural status of the Training Institute

Interview Schedule to explore the problems faced by the Training Institutes in running a quality programme

Interview Schedule to obtain the views of the visually impaired persons regarding training

Findings

The result of the t Test obtained from the Self-Concept scores have indicated that there is no significant difference between the employed and unemployed visually impaired persons across different dimensions except the social dimension showing that employment did not play a major role to bring in a change of self-concept. No significant difference was observed in the Attitude towards life for both the categories except for leading a better life so an overall positive attitude prevailed among them. Significant difference among parents of the participants indicated that employment has a dominant role in the rehabilitation process. The Training Institutes in West Bengal lacks multidimensional approach having several infrastructural problems and hence unable to cater their services to the numerous visually impaired population in West Bengal. The status of total rehabilitation of the visually impaired persons in West Bengal is yet to reach its optimum goal to transfer 1.8 million beneficiaries to a productive population.

Indian Journal of Educational Research
Department of Education, University of Calcutta
Alipur Campus, 1, Reformatory Street, Kolkata -700027
Phone No. (033) 24398451, 52

Editor: Professor Debjani Sengupta

E mail : reeang@rediffmail.com

Notes for Contributors

Articles submitted for the journal should be original contributions and should not be under consideration for any other publication at the same time; if an article is under consideration by another publication, authors should clearly indicate this at the time of submission.

At least two copies of the articles typed in double space on one side of the A4 size, 29.5 cm X 21 cm. Margins on all sides should be at least 1 inch. The pages of the typescript should be numbered serially. The author is responsible for the accuracy of the literature citation. Manuscript should be preferably of 3000 -6000 words. New paragraphs should be clearly indicated. The hard copies of the articles are to be sent to the head of the Department, Department of Education, University of Calcutta, 1, Reformatory Street, Kolkata 700027

The electronic version of the research article is also required to be submitted. MS word version of the article in New Roman script of font size 12 with double space can be sent to the editor's e-mail (mentioned above) or to kutubuddin2008@rediffmail.com

All references should be in APA or JEL format. The electronic resources should be given in the following manner.

PITRODA, S. 2007. "National Knowledge Commission, Government of India, New Delhi" Retrieved : June 13, 2010 from [http://. www.knowledgecommission.gov.in](http://www.knowledgecommission.gov.in)

Materials not accepted for publication will not be returned. The authors are entitled to 10 off prints free of cost and a copy of the issue in which their articles appear.

Subscription Form for the Indian Journal of Educational Research

Please enroll me for the subscription of the
INDIAN JOURNAL OF EDUCATIONAL RESEARCH

Name and Address
(in block letters)

PIN

Subscription for the calendar year _____,
(Please tick mark (✓) the appropriate one]

| | |
|-----------|-----------------------------------------------------------|
| Rs. 100/- | Subscription for individuals in India |
| Rs. 200/- | Subscription for Institutions in India |
| US \$ 30 | Subscription for individuals (By Air Mail) outside India |
| US \$ 50 | Subscription for institutions (By Air Mail) outside India |

The Department offers 20% discount on subscription for three years and above. Please make the payment by Bank Draft in favour of Head, Department of Education payable at Kolkata.

Details of the Enclosed Bank Draft:

Bank Draft No. _____, Dated _____ Drawn on _____

Date _____

Signature _____

Please mail this subscription order form along with the Bank Draft to :
The Head, Department of Education, University of Calcutta
Alipur Campus, 1, Reformatory Street, Kolkata -700027

Indian Journal of Educational Research

Articles

A Study on the Effect of Constructivism on Secondary School Students of Kolkata
Sridipa Sinha

March 2012

Computer Self Efficacy and Computer Anxiety of the In-service Teachers in West Bengal
Santoshi Halder and Sudip Chaudhuri

Conceptual Understanding of Educational Research For Increasing Output
Sujeet Kumar, Deepali Tyagi and Jaya Jain

Construction of a questionnaire to assess young adults' conflict with their parents
Suchandra Banerjee and Aditi Ghose

Development of Distance Education and Open Learning at the University Level in India
Nimai Chand Maiti and Anwesha Acharya

Educating The Girl Child : A Review
Mita Banerjee and Hema Datta

Environment Related Behaviour of Students with Visual Impairment: An Exploratory Factor Analysis
Madhumala Sengupta, Debasri Banerjee and Pintu Kumar Maji

Inclusion: Peer-Group Support and Visually Challenged Students
S. B. Bhattacharya, Upasana Ray and Surjoday Bhattacharya

Inclusive Growth for Sustainable Development: Role of Higher Education
Dulal Mukhopadhyaya

In search of Quality: Role of Teacher Educators
Ganesh Anant Hegde

Integrative Review of Literature from Meta-Analysis Perspective
Pranab Kumar Chakrabarti

Socio-Economic Background of Muslim Students at the Post-Graduate Level of Education : A Case Study of Calcutta University
Md. Kutubuddin Halder

The "Language" of Language
D P Mukherjee

Threats to University Governance in Mozambique
Ivan Collinson

Trends in Professional Ethics
Deepa Rani Saxena

Women's Access to Higher Education: A Case Study of Vidyasagar University Post-Graduates
Asis Kumar Dandapat and Debjani Sengupta

Research Abstracts

Computer Programming, Creativity and Intelligence
Rita Sinharay

Field Based Participatory Activity in Environmental Education
Mrunal Mukhopadhyay

Primary Education in the Homes
Debjani Ghosh

Rehabilitation of Street Children
Theena Halder

Rehabilitation of Visually Impaired Persons
Purnima Sengupta